MITSUBISHI

GRAPHIC OPERATION TERMINAL
GOT

GRAPHIC OPERATION TERMINAL

GOT1000

GT11 User's Manual

● SAFETY PRECAUTIONS ●

(Always read these precautions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.
The precautions given in this manual are concerned with this product.
In this manual, the safety precautions are ranked as "DANGER" and "CAUTION".

DANGER	**Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.**
CAUTION	**Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.**

Note that the ⚠ caution level may lead to a serious accident according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[DESIGN PRECAUTIONS]

DANGER

- Some failures of the GOT or cable may keep the outputs on or off.
  An external monitoring circuit should be provided to check for output signals which may lead to a serious accident.
  Not doing so can cause an accident due to false output or malfunction.
- If a communication fault (including cable disconnection) occurs during monitoring on the GOT, communication between the GOT and PLC CPU is suspended and the GOT becomes inoperative.
  A system where the GOT is used should be configured to perform any significant operation to the system by using the switches of a device other than the GOT on the assumption that a GOT communication fault will occur.
  Not doing so can cause an accident due to false output or malfunction.
- Do not use the GOT as the warning device that may cause a serious accident.
  An independent and redundant hardware or mechanical interlock is required to configure the device that displays and outputs serious warning.
  Failure to observe this instruction may result in an accident due to incorrect output or malfunction.

[DESIGN PRECAUTIONS]

DANGER

- Incorrect operation of the touch switch(s) may lead to a serious accident if the GOT backlight is gone out.
  When the GOT backlight goes out, the POWER LED flickers (green/orange) and the display section turns black and causes the monitor screen to appear blank, while the input of the touch switch(s) remains active.
  This may confuse an operator in thinking that the GOT is in "screensaver" mode, who then tries to release the GOT from this mode by touching the display section, which may cause a touch switch to operate.
  Note that the following occurs on the GOT when the backlight goes out.
  •The POWER LED flickers (green/orange) and the monitor screen appears blank

CAUTION

- Do not bundle the control and communication cables with main-circuit, power or other wiring.
  Run the above cables separately from such wiring and keep them a minimum of 100mm (3.94in.) apart. Not doing so noise can cause a malfunction.

[MOUNTING PRECAUTIONS]

DANGER

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the GOT to/from the panel.
  Not doing so can cause the unit to fail or malfunction.

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the option function board on to/from the GOT.
  Not doing so can cause the unit to fail or malfunction.

- When installing the option function board or battery, or operating the reset switch, wear an earth band etc. to avoid the static electricity.
  The static electricity can cause the unit to fail or malfunction.

[MOUNTING PRECAUTIONS]

⚠CAUTION

- Use the GOT in the environment that satisfies the general specifications described in this manual.
  Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- When mounting the GOT to the control panel, tighten the mounting screws in the specified torque range.
  Undertightening can cause the GOT to drop, short circuit or malfunction.
  Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT.
- Securely connect the option function board to the connector provided for the board.
- When inserting/removing a CF card into/from the GOT, turn the CF card access switch off in advance.
  Failure to do so may corrupt data within the CF card.
- When inserting a CF card into the GOT, push it into the insertion slot until the CF card eject button will pop out.
  Failure to do so may cause a malfunction due to poor contact.
- When removing a CF card from the GOT, make sure to support the CF card by hand, as it may pop out.
  Failure to do so may cause the CF card to drop from the GOT and break.

[WIRING PRECAUTIONS]

⚠DANGER

- Be sure to shut off all phases of the external power supply used by the system before wiring.
  Failure to do so may result in an electric shock, product damage or malfunctions.
- Please make sure to ground FG terminal of the GOT power supply section by applying 100Ω or less which is used exclusively for the GOT.
  Not doing so may cause an electric shock or malfunction.
- Correctly wire the GOT power supply section after confirming the rated voltage and terminal arrangement of the product.
  Not doing so can cause a fire or failure.
- Tighten the terminal screws of the GOT power supply section in the specified torque range.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT.
  Not doing so can cause a fire, failure or malfunction.

[WIRING PRECAUTIONS]

⚠CAUTION

- Plug the communication cable into the connector of the connected unit and tighten the mounting and terminal screws in the specified torque range.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

[TEST OPERATION PRECAUTIONS]

⚠DANGER

- Before performing the test operations of the user creation monitor screen (such as turning ON or OFF bit device, changing the word device current value, changing the settings or current values of the timer or counter, and changing the buffer memory current value), read through the manual carefully and make yourself familiar with the operation method.
  During test operation, never change the data of the devices which are used to perform significant operation for the system.
  False output or malfunction can cause an accident.

[STARTUP/MAINTENANCE PRECAUTIONS]

⚠DANGER

- When power is on, do not touch the terminals.
  Doing so can cause an electric shock or malfunction.
- Connect the battery correctly.
  Do not discharge, disassemble, heat, short, solder or throw the battery into the fire.
  Incorrect handling may cause the battery to generate heat, burst or take fire, resulting in injuries or fires.
- Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases.
  Not switching the power off in all phases can cause a unit failure or malfunction.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

[STARTUP/MAINTENANCE PRECAUTIONS]

⚠CAUTION

- Do not disassemble or modify the unit.
  Doing so can cause a failure, malfunction, injury or fire.
- Do not touch the conductive and electronic parts of the unit directly.
  Doing so can cause a unit malfunction or failure.
- The cables connected to the unit must be run in ducts or clamped.
  Not doing so can cause the unit or cable to be damaged due to the dangling, motion or accidental pulling of the cables or can cause a malfunction due to a cable connection fault.
- When unplugging the cable connected to the unit, do not hold and pull the cable portion.
  Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.
- Do not drop or apply any impact to the battery.
  If any impact has been applied, discard the battery and never use it.
  The battery may be damaged by the drop or impact.
- Before touching the unit, always touch grounded metal, etc. to discharge static electricity from human body, etc.
  Not doing so can cause the unit to fail or malfunction.

[DISPOSAL PRECAUTIONS]

⚠CAUTION

- When disposing of the product, handle it as industrial waste.

[TRANSPORTATION PRECAUTIONS]

⚠CAUTION

- When transporting lithium batteries, make sure to treat them based on the transport regulations.
  (Refer to Appendix 3 for details of the regurated units.)
- Before transporting the GOT, turn the GOT power on and check that the battery voltage status is normal on the Time setting & display screen (utilities screen). In addition, confirm that the adequate battery life remains on the rating plate.
  Transporting the GOT with the low battery voltage or the battery the reached battery life may unstabilize the backup data unstable during transportation.
- Make sure to transport the GOT main unit and/or relevant unit(s) in the manner they will not be exposed to the impact exceeding the impact resistance described in the general specifications of this manual, as they are precision devices.
  Failure to do so may cause the unit to fail.
  Check if the unit operates correctly after transportation.

REVISIONS

The manual number is given on the bottom left of the back cover.

Print Date	Manual Number	Ver.	Revision
Mar., 2005	JY997D17501	A	First edition
Oct., 2005	JY997D17501	B	Partical correcting ABOUT MANUALS, ABBREVIATIONS AND GENERIC TERMS IN THIS MANUAL, Chapter 1, Section 2.2, 3.1, 3.2, 4.2, Chapter 6, 7, Section 8.1, 8.4, 8.5, 9.2, 9.3, Chapter 10, 11, 12, 13, Section 14.1, 14.3, 16.2, 16.3, 17.4, Chapter 18, Appendix2, Appendix 4 Additions Section 13.6, 16.4

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INTRODUCTION

Thank you for choosing the Mitsubishi Graphic Operation Terminal.
Before using the equipment, please read this manual carefully to use the equipment to its optimum.

OUTLINE PRECAUTIONS

- This manual provides information for the use of the graphic operation terminal. The manual has been written to be used by trained and competent personnel. The definition of such a person or persons is as follows;
  1) Any engineer who is responsible for the planning, design and construction of automatic equipment using the product associated with this manual should be of a competent nature, trained and qualified to the local and national standards required to fulfill that role. These engineers should be fully aware of all aspects of safety with regards to automated equipment.
  2) Any commissioning or service engineer must be of a competent nature, trained and qualified to the local and national standards required to fulfill that job. These engineers should also be trained in the use and maintenance of the completed product. This includes being completely familiar with all associated documentation for the said product. All maintenance should be carried out in accordance with established safety practices.
  3) All operators of the completed equipment should be trained to use that product in a safe and coordinated manner in compliance to established safety practices. The operators should also be familiar with documentation which is connected with the actual operation of the completed equipment.

  Note: the term 'completed equipment' refers to a third party constructed device which contains or uses the product associated with this manual.
- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
- This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.
- When using this product combining other products, please confirm the standard and the code, or regulation which a user should suit. Moreover, please confirm the compatibility of this product to the system, machine, and apparatus with which a user is used for user itself.
- If in doubt at any stage of the installation of the product always consult a professional electrical engineer who is qualified and trained to the local and national standards. If in doubt about the operation or use, please consult the nearest Mitsubishi Electric distributor.
- Since the example indicated by this manual, technical bulletin, the catalog, etc. is reference, please use it after confirming the function and safety of equipment and system when employing. Mitsubishi Electric will accept no responsibility for actual use of the product based on these illustrative examples.
- About this manual content, specification etc. may be changed without a notice for improvement.
- The information in this manual has been carefully checked and is believed to be accurate; however, you have noticed a doubtful point, a doubtful error, etc., please contact the nearest Mitsubishi Electric distributor.

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ABOUT MANUALS

The following manuals are also related to this product.
In necessary, order them by quoting the details in the tables below.
For the handy GOT (GT1155HS-QSBD, GT1150HS-QLBD), refer to the Handy GOT User's Manual provided separately.

Related Manuals

Manual Name	Manual Number (Model Code)
GT Designer2 Version2 Basic Operation/Data Transfer Manual (For GOT1000 Series) Describes methods of the GT Designer2 installation operation, basic operation for drawing and transmitting data to GOT1000 series (Sold separately) *1	SH-080529ENG (1D7M24)
GT Designer2 Version2 Screen Design Manual (For GOT1000 Series) 1/2 GT Designer2 Version2 Screen Design Manual (For GOT1000 Series) 2/2 Describes specifications and settings of the object functions used in GT Designer2 (Sold separately) *1	SH-080530ENG SH-080531ENG (1D7M25)
GOT1000 Series Connection Manual Describes system configurations of the connection method applicable to GOT1000 series and cable creation method (Sold separately) *1	SH-080532ENG (1D7M26)
GOT1000 Series Extended/Option Functions Manual Describes extended functions and option functions applicable to GOT1000 series. (Sold separately) *1	SH-080544ENG (1D7M32)

*1 The manual in PDF-format is included in the GT Works2 and GT Designer2 products.

ABBREVIATIONS AND GENERIC TERMS IN THIS MANUAL

Abbreviations and generic terms used in this manual are described as follows.

■ GOT

Abbreviations and generic terms		Description
GOT1000 Series	GT1595-X	Abbreviated name of GT1595-XTBA
	GT1585-S	Abbreviated name of GT1585-STBA, GT1585-STBD
	GT1575-S	Abbreviated name of GT1575-STBA, GT1575-STBD
	GT1575-V	Abbreviated name of GT1575-VTBA, GT1575-VTBD
	GT1565-V	Abbreviated name of GT1565-VTBA, GT1565-VTBD
	GT15□□, GT15	Generic name of GT1595-X, GT1585-S, GT1575-S, GT1575-V, GT1565-V
	GT1155-Q	Abbreviated name of GT1155-QSBD
	GT1150-Q	Abbreviated name of GT1150-QLBD
	GT1155	Abbreviated name of GT1155-QSBD
	GT1150	Abbreviated name of GT1150-QLBD
	GT11□□,GT11	Generic name of GT1155 and GT1150
	Handy GOT	GT1155HS-QSBD, GT1150HS-QLBD
	GOT or GOT1000	Generic name of GT1155-QSBD and GT1150-QLBD

■ Communication unit

Abbreviations and generic terms	Description
Bus connection unit	Generic name of GT15-QBUS, GT-QBUS2, GT15-ABUS, GT15-ABUS2, GT15-75QBUSL, GT15-75QBUS2L, GT15-75ABUSL, GT15-75ABUS2L
Serial communication unit	Generic name of GT15-RS2-9P, GT15-RS4-9S, GT15-RS4-TE
RS-422 conversion unit	Generic name of GT15-RS2T4-9P, GT15-RS2T4-25P
Ethernet communication unit	Abbreviated name of GT15-J71E71-100
MELSECNET/10 communication unit	Generic name of GT15-75J71LP23-Z, GT15-75J71BR13-Z
CC-Link communication unit	Abbreviated name of GT15-75J61BT13-Z
Interface converter unit	Abbreviated name of GT15-75IF900

■ Option

Abbreviations and generic terms		Description
Backlight		Generic name of GT15-90XLTT, GT15-80SLTT, G15-70SLTT, GT15-70VLTT, GT15-70VLTTN, GT15-60VLTT, GT15-60VLTTN
Option function board		Generic name of GT15-FNB, GT15-QFNB, GT15-QFNB16M, GT15-QFNB32M, GT15-QFNB48M, GT11-50FNB
Multi-color display board		Abbreviated name of GT15-XHNB, GT15-VHNB
Protective Sheet		Generic name of GT15-90PSCB, GT15-90PSGB, GT15-90PSCW, GT15-90PSGW, GT15-80PSCB, GT15-80PSGB, G15-80PSCW, G15-80PSGW, GT15-70PSCB, GT15-70PSGB, GT15-70PSCW, GT15-70PSGW, GT15-60PSCB, GT15-60PSGB, GT15-60PSCW, GT15-60PSGW, GT11-50PSCB, GT11-50PSGB, GT11-50PSCW, GT11-50PSGW
USB environmental protection cover		Generic name of GT15-UCOV, G11-50UCOV
Stand		Generic name of GT15-80STAND, GT15-70STAND, A9GT-50STAND
Memory card	CF card	Generic name of GT05-MEM-16MC, GT05-MEM-32MC, GT05-MEM-64MC, GT05-MEM-128MC, GT05-MEM-256MC
Memory card adaptor		Abbreviated name of GT05-MEM-ADPC
Attachment		Generic name of GT15-60ATT-97, GT15-60ATT-96
Battery		Generic name of GT15-BAT, GT11-50BAT

■ Software

Abbreviations and generic terms	Description
GT Works2 Version2	Abbreviated name of SW2D5C-GTWK2-E
GT Designer2 Version2	Abbreviated name of SW2D5C-GTD2-E
GT Designer2	Abbreviated name of screen drawing software GT Designer2 for GOT1000/GOT900 series
GT Converter2	Abbreviated name of data conversion software GT Converter2 for GOT1000/GOT900 series
GT Simulator2	Abbreviated name of screen simulator GT Simulator2 for GOT1000/GOT900 series
GT SoftGOT2	Abbreviated name of monitoring software GT SoftGOT2
GX Developer	Generic name of SW□D5C-GPPW-E(-EV)/SW□D5F-GPPW-E type software package
GX Simulator	Generic name of SW□D5C-LLT-E(-EV) type ladder logic test tool function software packages (SW5D5C-LLT(-EV) or later versions)

■ License (For GT SoftGOT2)

Abbreviations and generic terms	Description
License	Abbreviated name of A9GTSOFT-LKEY-P (For DOS/V personal computer)
License FD	Abbreviated name of SW5D5F-SGLKEY-J (For PC CPU module)

■ Others

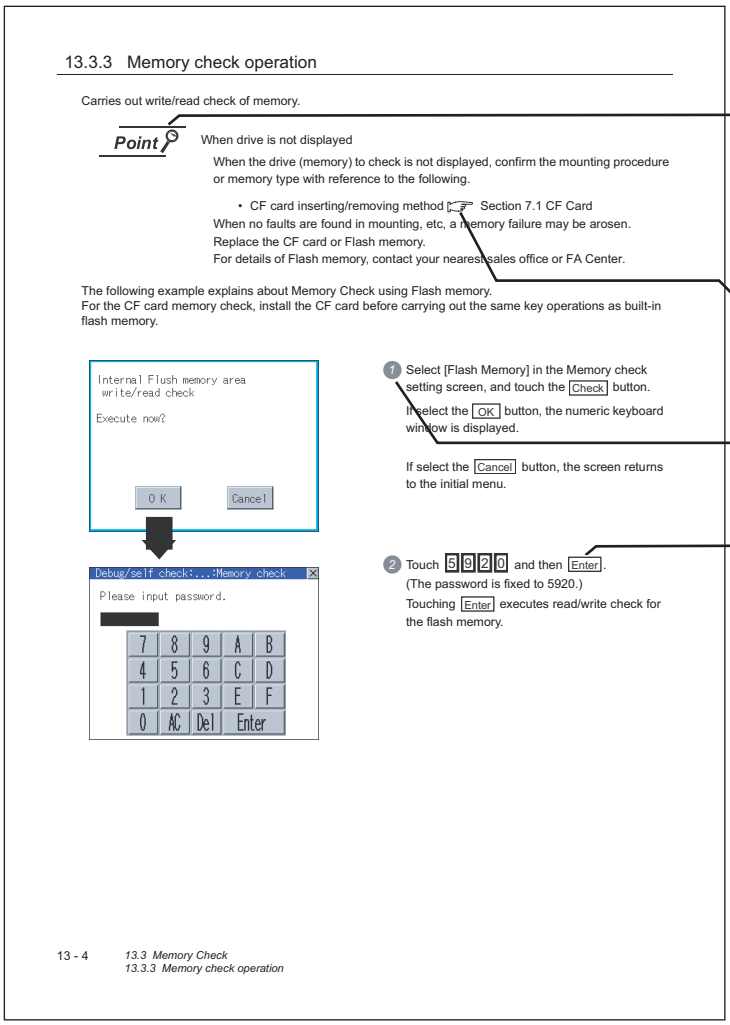
Abbreviations and generic terms	Description
OMRON PLC	Abbreviated name of PLC manufactured by OMRON Corporation
KEYENCE PLC	Abbreviated name of PLC manufactured by KEYENCE Corporation
SHARP PLC	Abbreviated name of PLC manufactured by SHARP Corporation
TOSHIBA PLC	Abbreviated name of PLC manufactured by TOSHIBA Corporation
HITACHI PLC	Abbreviated name of PLC manufactured by Hitachi Industrial Equipment Systems Co., Ltd.
MATSUSHITA PLC	Abbreviated name of PLC manufactured by Matsushita Electric Works, Ltd.
YASKAWA PLC	Abbreviated name of PLC manufactured by YASKAWA Electric Corporation
YOKOGAWA PLC	Abbreviated name of PLC manufactured by Yokogawa Electric Corporation
Allen-Bradley PLC	Abbreviated name of PLC manufactured by Allen-Bradley
SIEMENS PLC	Abbreviated name of PLC manufactured by SIEMENS
OMRON temperature controller	Abbreviated name of temperature controller manufactured by OMRON Corporation
YAMATAKE temperature controller	Abbreviated name of temperature controller manufactured by YAMATAKE Corporation
RKC temperature controller	Abbreviated name of temperature controller manufactured by RKC INSTRUMENT INC.
Windows® fonts	Generic name of TrueType font and OpenType font available on Windows®
CC-Link (G4)	Abbreviated name of CC-Link connection using AJ65BT-G4-S3 (operation mode: Q mode)

1 Functions

This manual describes functions available for the GT Designer2 Version2.09K.
For the added functions by the product version upgrade, refer to the list of functions added by GT Designer2 version upgrade in Appendices.

2 Symbols

Following symbols are used in this manual.


13.3.3 Memory check operation

Carries out write/read check of memory.

Point

When drive is not displayed

When the drive (memory) to check is not displayed, confirm the mounting procedure or memory type with reference to the following.

• CF card inserting/removing method ☞ Section 7.1 CF Card

When no faults are found in mounting, etc, a memory failure may be arosen.
Replace the CF card or Flash memory.
For details of Flash memory, contact your nearest sales office or FA Center.

The following example explains about Memory Check using Flash memory.
For the CF card memory check, install the CF card before carrying out the same key operations as built-in flash memory.

1 Select [Flash Memory] in the Memory check setting screen, and touch the Check button.
If select the OK button, the numeric keyboard window is displayed.

If select the Cancel button, the screen returns to the initial menu.

2 Touch 5 9 2 0 and then Enter.
(The password is fixed to 5920.)
Touching Enter executes read/write check for the flash memory.

13 - 4 13.3 Memory Check
13.3.3 Memory check operation

Point Refers to the information required.

Remark Refers to the supplementary explanations for reference.

Indicates the items in which the detailed explanation is described (manual, chapter, section, item of the manual).

1 → 2 → 3 · · · ·
Indicates the operation steps.

Menu and items are differentiated with parentheses.

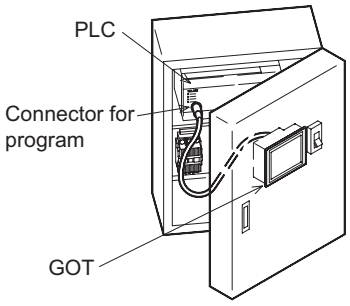
[ ] : refers to the menu of GOT utility.

[ ] : refers to the button in the dialog box of GOT utility.

1. OVERVIEW

1 About GOT

A GOT is installed on the panel surface of a control panel or operating panel and connects to the PLC within the control panel. The GOT carries out switch operation, lamp display, data display, message display, etc.



For the display screen, two kinds of screens are available : user screen and utility screen.

(1) User screen

The user screen is a screen drawn by GT Designer2.
The objects "Touch switch", "Lamp display", "Comment display", and "Numeric display" can be arditrarily arranged on the display.
A "horizontal format" or "vertical format" may be selected for displaying a user's project.
Moreover, multiple screens created within GT Designer2 can be individually selected or overlapped for the display.

For details, refer to the following.

☞ GT Designer2 Version□ Basic Operation/Data Transfer Manual
GT Designer2 Version□ Screen Design Manual

(2) Utility Screen

The utility screen is a factory drawn horizontal screen that cannot be edited.
Installing the BootOS or Standard monitor OS in the GOT from GT Designer2, the utility screen is displayed.
The utility screen has options for "Brightness/contrast adjustment " , "GOT memory check " , etc , and the foramt is horizontal only.

For details, refer to the following.

☞ Chapter 9 to Chapter 15

2 About Manual

The following manuals related to GOT 1000 series are available. Refer to each manual in accordance with the intended use.

(1) Installation of the software programs → Drawing → Data transfer
For operations from creating project data to transferring data to GOT, refer to the following manuals.

Purpose	GT Designer2 Version □ Basic Operation/Data Transfer Manual*1	GT Designer2 Version □ Screen Design Manual*1
Installing product on PC	Detailed	
Creating projects	Detailed	
Creating screens	Detailed	
Drawing figures	Detailed	
Making Common Settings	Overview	Detailed
Placing/Setting objects	Overview	Detailed
Transferring data to GOT	Detailed	

*1 Stored in the GT Works 2/GT Designer2 in PDF format.

(2) Installing a GOT → connection to a PLC

For the operations from installing a GOT to communicating with a PLC CPU, refer to the following manuals.

Purpose	GT15 General Description GT 11 General Description	GT15 User's Manual GT11 User's Manual	GOT1000 Series Connection Manual*1
	 (Included)		
Confirming part names and specifications of the GOT	Overview	Detailed	
Confirming the GOT installation method	Overview	Detailed	
Confirming the mounting method for communication units or option devices		Detailed	Overview
Confirming the PLC connection method			Detailed
Confirming the utility operation method		Detailed	
Confirming error codes (system alarm) displayed on the GOT		Detailed	

*1 Stored in the GT Works2/GT Designer2 in PDF format.

(3) Other manuals

The following manuals are also available.

The following manuals are stored in the GT Works2/GT Designer2 in PDF format.

(a) GOT1000 Series Extended/Option Functions Manual
Describes how to use the ladder monitoring function, system monitor function and list editor for MELSEC-A.

(b) GOT1000 Series Gateway Functions Manual
Describes how to use the gateway function.

(c) GT Simulator 2 Version□ Operation Manual
Describes how to simulate the created project data with GT Simulator2.

(d) GT Converter2 Version□ Operating Manual
Describes how to use the GT Converter2.

1.1 Features

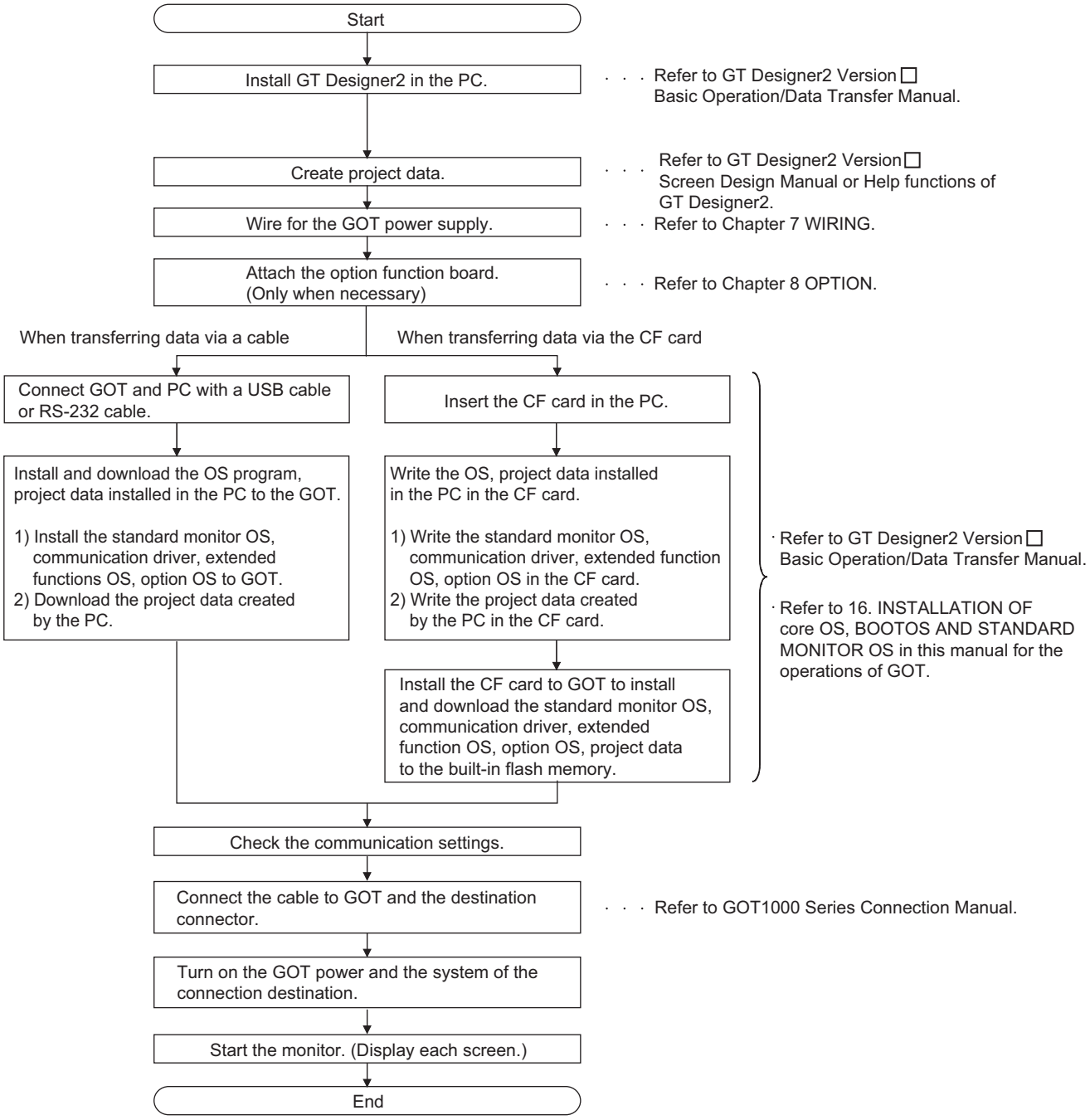
(1) Improved monitoring performance and connectivity to FA devices
- Multiple languages are displayed using the Unicode2.1-compatible fonts and beautiful characters are drawn using the TrueType and high quality fonts.
- Two types of display modes are provided: 256-color display and monochrome display. In the monochrome display, 16 scales are used to improve the display.
- High speed monitoring through high speed communication at maximum of 115.2kbps.
- High speed display and high speed touch switch response.

(2) More efficient GOT operations including screen design, startup, adjustment, management and maintenance works
- The 3MB user memory is included as standard.
- CF card interface is included as standard.
- The USB connector is positioned on the GOT front. This enables the system startup to be performed more efficiently using FA device setup tool, and eliminates the indirect works (opening and closing the control panel, cable replacement, cable rewiring) in order to improve the working efficiency.

(3) Enhanced support of FA setup tools
- Transferring or monitoring the sequence programs using the personal computer connected to GOT, during direct connection to A, QnA, Q, or FX series PLC CPU, or computer link connection to A, QnA or Q series (FA Transparent function).

1.2 Rough Pre-operation Procedure

The outline procedure before operating GOT is shown.

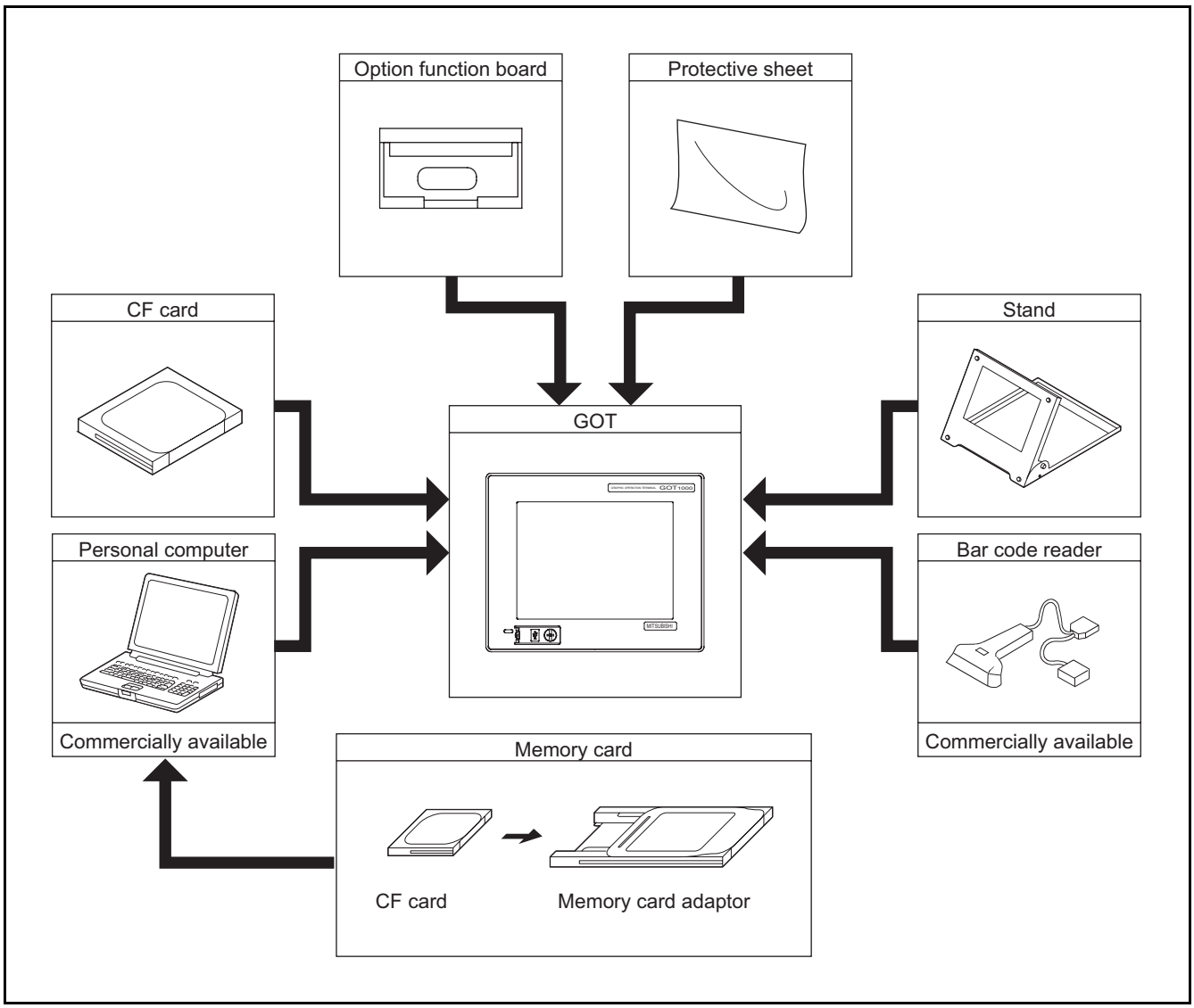

Start
Install GT Designer2 in the PC.
· · · Refer to GT Designer2 Version ☐ Basic Operation/Data Transfer Manual.
Create project data.
· · · Refer to GT Designer2 Version ☐ Screen Design Manual or Help functions of GT Designer2.
Wire for the GOT power supply.
· · · Refer to Chapter 7 WIRING.
Attach the option function board. (Only when necessary)
· · · Refer to Chapter 8 OPTION.
When transferring data via a cable
When transferring data via the CF card
Connect GOT and PC with a USB cable or RS-232 cable.
Insert the CF card in the PC.
Install and download the OS program, project data installed in the PC to the GOT.
1) Install the standard monitor OS, communication driver, extended functions OS, option OS to GOT.
2) Download the project data created by the PC.
Write the OS, project data installed in the PC in the CF card.
1) Write the standard monitor OS, communication driver, extended function OS, option OS in the CF card.
2) Write the project data created by the PC in the CF card.
Install the CF card to GOT to install and download the standard monitor OS, communication driver, extended function OS, option OS, project data to the built-in flash memory.
· Refer to GT Designer2 Version ☐ Basic Operation/Data Transfer Manual.
· Refer to 16. INSTALLATION OF core OS, BOOTOS AND STANDARD MONITOR OS in this manual for the operations of GOT.
Check the communication settings.
Connect the cable to GOT and the destination connector.
· · · Refer to GOT1000 Series Connection Manual.
Turn on the GOT power and the system of the connection destination.
Start the monitor. (Display each screen.)
End

2. SYSTEM CONFIGURATION

2.1 Overall Configuration

The overall configuration of GOT is as follows.
For the connection methods applicable to GOT1000 series and cable, refer to the following.

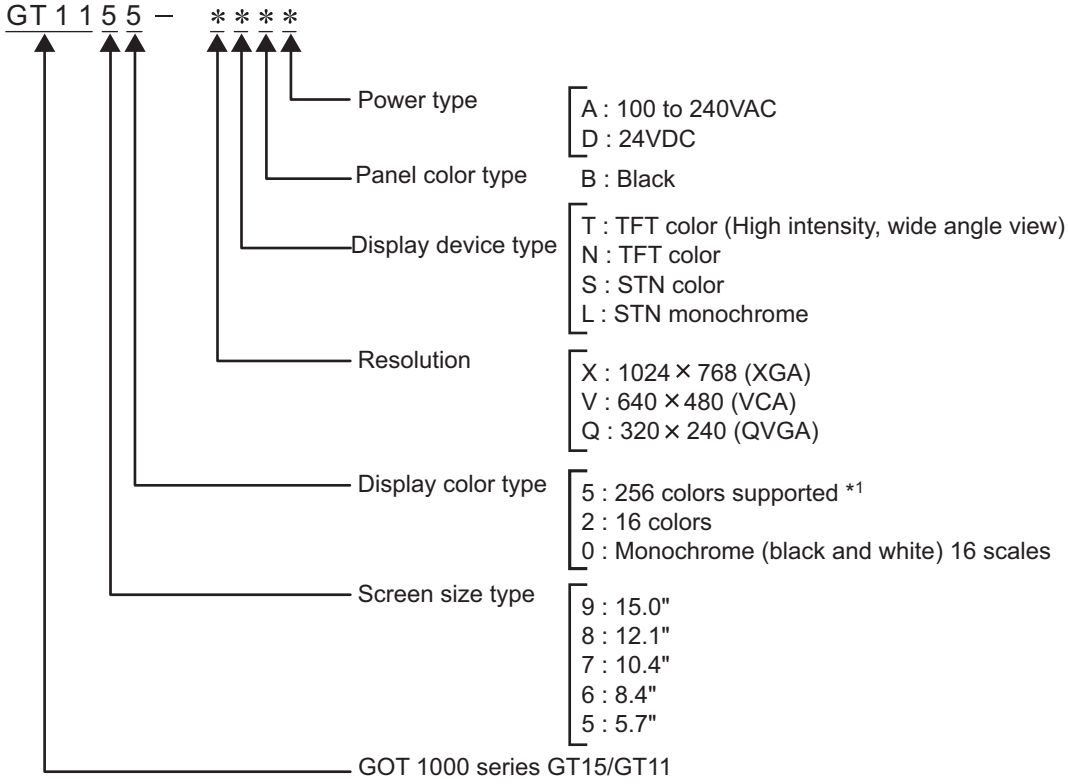
☞GOT1000 Series Connection Manual



- GT11☐☐ does not connect a printer.

2.2 Component List

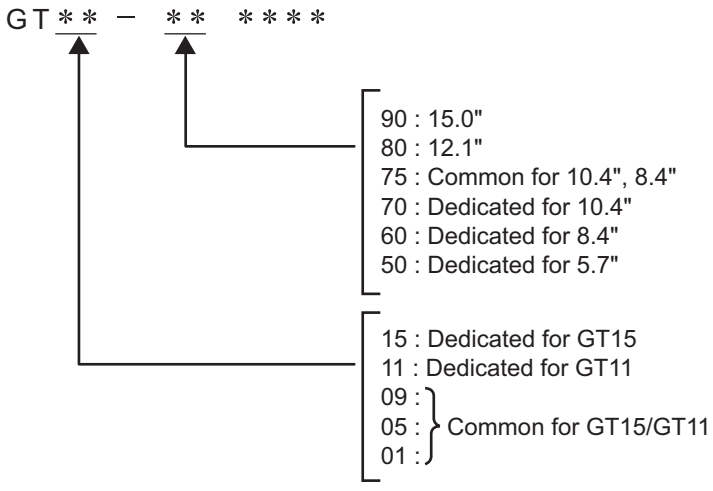
(1) Explanation of the GOT model name


GT1155 − ＊＊＊＊
Power type
A : 100 to 240VAC
D : 24VDC
Panel color type
B : Black
Display device type
T : TFT color (High intensity, wide angle view)
N : TFT color
S : STN color
L : STN monochrome
Resolution
X : 1024 × 768 (XGA)
V : 640 × 480 (VCA)
Q : 320 × 240 (QVGA)
Display color type
5 : 256 colors supported *1
2 : 16 colors
0 : Monochrome (black and white) 16 scales
Screen size type
9 : 15.0"
8 : 12.1"
7 : 10.4"
6 : 8.4"
5 : 5.7"
GOT 1000 series GT15/GT11

*1: GT15 can display 65536 colors when the multi-color display board is used.
For details of GT15 models on which the multi-color board can be installed.

GT15 User's Manual

(2) Explanation of the option model name



2.2.1 GOT (GT11)

Product name	Model name	Specifications
GOT	GT1155-QSBD	5.7" [320 × 240 dots], STN color liquid crystal, 256 colors, 24VDC, memory size 3MB, built-in battery
	GT1150-QLBD	5.7" [320 × 240 dots], STN monochrome liquid crystal, monochrome (black and white) 16 scales, 24VDC, memory size 3MB, built-in battery

2.2.2 Option (Optional components for GT11)

PLC connection cable (Sold separately)

Product name		Model name	Cable length	Contents
RS-422 Cable	FXCPU direct connection cable FX expansion board connection cable	GT01-C10R4-8P	1m	For connecting FXCPU (MINI DIN 8 pins) and GOT. For connecting FXCPU expansion board (MINI DIN 8 pins) and GOT.
		GT01-C30R4-8P	3m	
		GT01-C100R4-8P	10m	
		GT01-C200R4-8P	20m	
		GT01-C300R4-8P	30m	
	QnA/A/ FXCPU direct connection cable computer link connection cable	GT01-C30R4-25P	3m	For connecting QnA/ACPU/Motion controller CPU (A series) FXCPU (D-sub 25 pins) and GOT. For connecting FA-CNV □ CBL and GOT For connecting serial communication unit (AJ71QC24(N)-R4) and GOT
		GT01-C100R4-25P	10m	
		GT01-C200R4-25P	20m	
		GT01-C300R4-25P	30m	
RS-232 Cable	QCPU direct connection cable	GT01-C30R2-6P	3m	For connecting QCPU/Motion controller CPU (Q series) and GOT
	FX expansion board connection, FX special adaptor connection, data transfer cable	GT01-C30R2-9S	3m	For connecting FXCPU expansion board (D-sub 9pins), special adapter (D-sub 9 pins) and GOT. For connecting personal computer (GT Designer2) (D-sub 9 pins: female)*1 and GOT (D-sub 9 pins: female)*1
	FX special adaptor connection	GT01-C30R2-25P	3m	For connecting FXCPU special adaptor (D-sub 25 pins) and GOT.
USB Cable	Data transfer cable	GT09-C20USB-5P	2m	For connecting personal computer (GT Deginer2) (USB) and GOT (USB mini)

*1: Description in parentheses indicates the cable side connector shape.

CF card (Sold separately)

Product name	Model name	Contents
CF card	GT05-MEM-32MC	Flash ROM 32MB
	GT05-MEM-64MC	Flash ROM 64MB
	GT05-MEM-128MC	Flash ROM 128MB
	GT05-MEM-256MC	Flash ROM 256MB

Memory card adaptor (Sold separately)

Product name	Model name	Contents
Memory card adaptor	GT05-MEM-ADPC	CF card to memory card (Type II) conversion adaptor

Option function board (Sold separately)

Product name	Model name	Contents
Option function board	GT11-50FNB	Option function board

Stand (Sold separately)

Product name	Model name	Contents
Stand	A9GT-50STAND	Stand (Common to A95□GOT)

Battery (Sold separately)

Product name	Model name	Contents
Battery*2	GT11-50BAT	For storing clock data, alarm history and recipe data

*2: At GOT purchase, it is installed in the main unit.

Protective sheet (Sold separately)

Product name	Model name	Contents	
Protective sheet	GT11-50PSCB	5.7" protective sheet	Clear 5 sheets
	GT11-50PSGB		Antiglare 5 sheets
	GT11-50PSCW		Clear (Frame: white) 5 sheets
	GT11-50PSGW		Antiglare (Frame: white) 5 sheets

USB environmental protection cover (Sold separately)

Product name	Model name	Contents
USB environmental protection cover*3	GT11-50UCOV	Replacement environmental protection cover for USB interface on the GOT main unit front side (For complying IP67)

*3: At GOT purchase, it is installed in the main unit.

Drawing software (Sold separately)

Product name	Model name	Contents
GT Designer2	SW □ D5C-GTD2-E (□ indicates the version)*4	Drawing software for GOT1000/GOT900 series

* 4: The □ is assigned with an integer 2 or more.

Bar code reader (Sold separately)

Product name	Model name	Contents
Bar code reader	-	Commercially-available bar code reader *5

*5: Some models with the operations checked by our company are usable.
For the operation-checked models, refer to "List of valid devices applicable for GOT1000 series" separately available (T10-0039).
The Technical News above is available as a reference at the Information site for Mitsubishi industrial automation products MELFANSweb home page.
(MELFANSweb home page: http://wwwf2.mitsubishielectric.co.jp/melfansweb/english/index_e.htm)

3. SPECIFICATIONS

3.1 General Specifications

<table>
<tr><th colspan="2">Item</th><th colspan="6">Specifications</th></tr>
<tr><td rowspan="2">Operating ambient temperature</td><td>Display section</td><td colspan="6">0 to 50℃</td></tr>
<tr><td>Other than display section</td><td colspan="6">0 to 55℃ (when horizontally installed), 0 to 50℃ (when vertically installed)</td></tr>
<tr><td colspan="2">Storage ambient temperature</td><td colspan="6">-20 to 60℃</td></tr>
<tr><td colspan="2">Operating ambient humidity*1</td><td colspan="6">10 to 90% RH, non-condensing</td></tr>
<tr><td colspan="2">Storage ambient humidity*1</td><td colspan="6">10 to 90% RH, non-condensing</td></tr>
<tr><td colspan="2" rowspan="5">Vibrationresistance</td><td rowspan="5">Conforms to JIS B3502 and IEC61131-2</td><td></td><td>Frequency</td><td>Acceleration</td><td>Half-amplitude</td><td>Sweep Count</td></tr>
<tr><td rowspan="2">Under intermittent vibration</td><td>5 to 9Hz</td><td>-</td><td>3.5mm</td><td rowspan="4">10 times each in X, Y and Z directions</td></tr>
<tr><td>9 to 150Hz</td><td>9.8m/s^2</td><td>-</td></tr>
<tr><td rowspan="2">Under continuous vibration</td><td>5 to 9Hz</td><td>-</td><td>1.75mm</td></tr>
<tr><td>9 to 150Hz</td><td>4.9m/s^2</td><td>-</td></tr>
<tr><td colspan="2">Shock resistance</td><td colspan="6">Conforms to JIS B3502, IEC 61131-2 (147 m/s^2, 3 times each in X, Y and Zdirections)</td></tr>
<tr><td colspan="2">Operating atmosphere</td><td colspan="6">No corrosive gas</td></tr>
<tr><td colspan="2">Operating altitude*2</td><td colspan="6">2000 m (6562 ft) max.</td></tr>
<tr><td colspan="2">Installation location</td><td colspan="6">Inside control panel</td></tr>
<tr><td colspan="2">Overvoltage category*3</td><td colspan="6">II or less</td></tr>
<tr><td colspan="2">Pollution degree*4</td><td colspan="6">2 or less</td></tr>
<tr><td colspan="2">Cooling method</td><td colspan="6">Self-cooling</td></tr>
</table>

*1 : The wet bulb temperature is 39℃ or less.

*2 : Do not use or store the GOT under pressures higher than the atmospheric pressure of altitude 0m (0ft.). Failure to observe this instruction may cause a malfunction.

*3 : This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within the premises.
Category II applies to equipment for which electrical power is supplied from fixed facilities.
The surge voltage withstand level for up to the raged voltage of 300 V is 2500 V.

*4 : This index indicates the degree to which conductive pollution is generated in the environment where the equipment is used.
In pollution degree 2, only non-conductive pollution occurs but temporary conductivity may be produced due to condensation.

3.2 Performance Specifications

Item		Specifications	
		GT1155-QSBD	GT1150-QLBD
Display section*1	Type	STN color liquid crystal	STN monochrome (white/black) liquid crystal
	Screen size	5.7"	
	Resolution	320 × 240 dots	
	Display size	W115(4.53) × H86(3.39)[mm](inch) (Horizontal format)	
	Display character	16-dot standard font: 20 characters × 15 lines, 12-dot standard font: 26 characters × 20 lines (Horizontal format)	
	Display color	256 colors	Monochrome (white/black), 16 scales
	Display angle	Left/Right: 50 degrees, Top: 50 degrees, Bottom: 60 degrees (Horizontal format)	Left/Right: 45 degrees, Top: 20 degrees, Bottom: 40 degrees (Horizontal format)
	Contrast adjustment	16-level adjustment	
	Intensity of LCD only	280 to 350[cd/m^2](Adjustable in 8 levels)	160 to 220[cd/m^2](Adjustable in 8 levels)
	Intensity adjustment	8-level adjustment	
	Life*2	Approx. 50,000h. Guaranteed: 1 year (Time for display intensity to become 1/5 at operating ambient temperature of 25℃)	
Backlight		Cold cathode fluorescent tube (irreplaceable by a user) backlight shutoff detection function is included. Backlight off/screen saving time can be set.	
	Life	Approx. 75,000h or longer, Guaranteed: 1 year (Time for display intensity reaches 50% at the operating ambient temperature of 25℃)	Approx. 54,000h or longer, Guaranteed: 1 year (Time for display intensity reaches 50% at the operating ambient temperature of 25℃)
Touch panel	Number of touch keys	300 keys/screen (Matrix structure of 15 lines × 20 columns)	
	Key size	Minimum 16 × 16 dots (per key)	
	Number of points touched simultaneously	Maximum of 2 points	
	Life	1 million times or more (operating force 0.98N max.)	
Memory	C drive*3	Flash memory (Internal), for storing project data (3Mbytes) and OS	
	Life (Number of write times)	100,000 times	
	D drive	SRAM (Internal), 512kbyes (battery backup)	
Battery		GT11-50BAT lithium battery	
	Backup target	Clock data, alarm history and recipe data	
	Life	Approx. 5 years (Operating ambient temperature of 25℃), Guaranteed: 1 year	

Item		Specifications	
		GT1155-QSBD	GT1150-QLBD
Built-in interface	RS-422	Conforming to serial RS422 standard, 1ch Transmission speed : 115,200/57,600/38,400/19,200/9,600/4,800bps Connector shape : D-sub 9-pin (Female) Application : PLC communication	
	RS-232	Conforming to serial RS232 standard, 1ch Transmission speed : 115,200/57,600/38,400/19,200/9,600/4,800bps Connector shape : D-sub 9-pin (Male) Application : PLC communication, bar code reader connection, PC communication (Project data upload/download, OS installation, transparent function)	
	USB	Conforming to serial USB (Full Speed 12Mbps), device, 1ch Application : PC communication (Project data upload/download, OS installation, transparent function)	
	CF card	Conforming to PCMCIA, compact flash slot, 1ch Connector shape : Dedicated for TYPE I Application : Data transfer, data storage	
	Option function board	For installing option function board, 1ch	
Buzzer output		Single tone (tone length adjustable)	
Environmental protective structure*4		Equivalent to IP67 (JEM1030) (front section) when the USB environmental protective cover is attached	
External dimensions		W164(6.46) × H135(5.32) × D56(2.21)[mm](inch)(Excluding USB environmental protective cover) (Horizontal format)	
Panel cutting dimensions		W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format)	
Weight		0.7kg (Excluding mounting fixtures)	
Compatible software package		GT Designer2 Version2 or later	

*1: Bright dots (always lit) and dark dots (unlit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Flickers may be observed depending on the display color.
Please note that these dots appear due to its characteristic and are not caused by product defect.

*2: The GOT screen saving/backlight off function prevents images from becoming permanently etched on the display screen and increases the backlight life.

*3: ROM in which new data can be written without deleting the written data.

*4: Compliant with IP67 when the USB environmental protection cover is attached. Not compliant when a USB cable is connected. Note that this does not guarantee all users' operation environment.

3.3 Power Supply Specifications

Item	Specifications	
	GT1155-QSBD	GT1150-QLBD
Input power supply voltage	24VDC (+10% -15%), ripple voltage 200mV or less	
Fuse (built-in, not exchangeable)	1.0A	
Power consumption	9.84W (410mA/24VDC) or less	9.36W (390mA/24VDC) or less
At backlight off	4.32W (180mA/24VDC) or less	
Inrush current	15A or less (26.4V) 2ms	
Permissible instantaneous power failure time	Within 5ms	
Noise immunity	Noise voltage: 1000Vp-p, Noise width: 1μs (by noise simulator of 30 to 100Hz noise frequency)	
Dielectric withstand voltage	500VAC for 1 minute (across power supply terminals and earth)	
Insulation resistance	10MΩ or larger by insulation resistance tester (across power supply terminals and earth)	
Applicable wire size	0.75 to 2[mm^2]	
Applicable solderless terminal	Solderless terminal for M3 screw RAV1.25-3, V2-N3A, FV2-N3A	
Applicable tightening torque (Terminal block terminal screw)	0.5 to 0.8[N•m]	

Remark

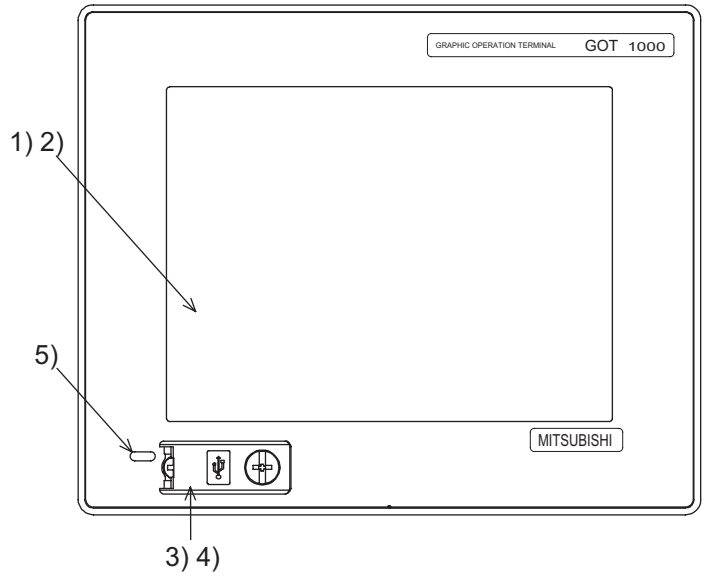
Operation at momentary power failure

The GOT continues to operate even upon 5ms or shorter instantaneous power failure.

The GOT stops operating if there is extended power failure or voltage drop, while it automatically resumes operation as soon as the power is restored.

4. PART NAME

4.1 Front Panel

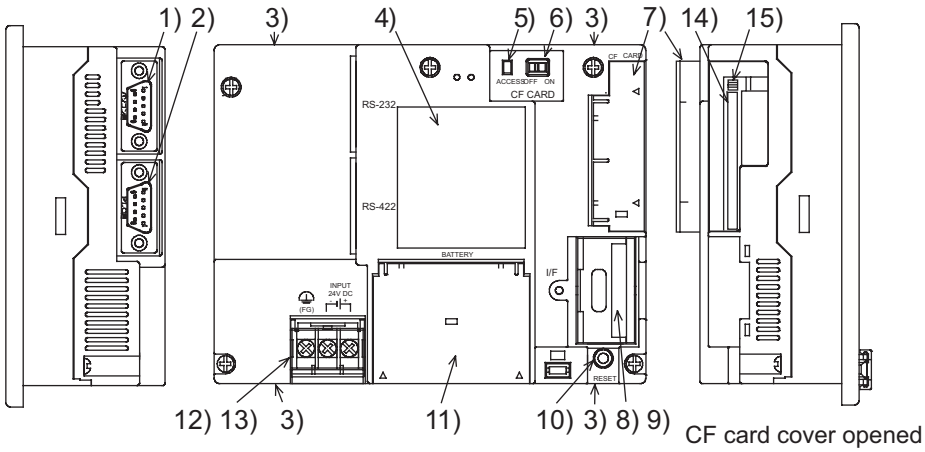


No	Name	Specifications
1)	Display screen	Displays the utility screen and the user creation screen. GT1155-QSBD••• 320 × 240 dots, STN color liquid crystal GT1150-QLBD••• 320 × 240 dots, STN monochrome (white/black) liquid crystal, 16 scales
2)	Touch key	For operating the touch switches in the utility screen and the user creation screen
3)	USB interface	USB interface for connecting a personal computer (OS installation, project data download, transparent)
4)	USB environmental protection cover	Opens/Closes when the UBS interface is used.
5)	POWER LED	Lit in green : Power is correctly supplied Lit in orange : Screen saving Blinking in orange/green : Blown backlight bulb Not lit : Power is not supplied

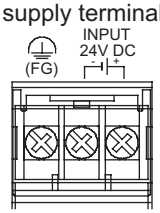
For the PC connection, refer to the following.

☞GT Designer2 Version□ Basic Operation/Data Transfer Manual
Section1.5 System Configuration

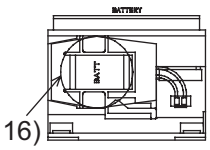
4.2 Back Panel



Power supply terminal layout



Battery cover opened



No.	Name	Specifications
1)	RS-232 interface	For communicating with controller (PLC, microcomputer board, bar code reader, etc) or personal computer (OS installation, project data download, transparent) (D-sub 9-pin male)
2)	RS-422 interface	For communicating with controller (PLC, microcomputer board, etc) (D-sub 9-pin female)
3)	Hole for unit installation fitting	Hole for the inserting installation fittings (accessory) during the GOT installation to the panel (4 holes at top and bottom)
4)	Rating plate (nameplate)	-
5)	CF card access LED	Lit: CF card accessed Not lit: CF card not accessed
6)	CF card access switch	Switch for prohibiting access to CF card before removing the CF card from the GOT ON : CF card being accessed (CF card removal prohibited) OFF : No access to CF card (CF card removal possible)
7)	CF card cover	Open or close when inserting or removing the CF card.
8)	Option function board (option)	Connect when using optional functions.
9)	Option function board cover	Remove when using the option function board.
10)	Reset switch	Hardware reset switch (Use an isolated rod to operate.)
11)	Battery cover	Open or close when replacing the battery.
12)	Power terminal	Power terminal and FG terminal (for power supply (24VDC) to GOT and grounding)
13)	Power terminal cover	Open or close when connecting a power terminal. (Color: transparent)
14)	CF card interface	Interface for installing the CF card to GOT
15)	CF card eject button	Button for removing the CF card
16)	Battery	GT11-50BAT battery for storing clock data, alarm history and recipe data (The project data is stored in the built-in flash memory.)

For the connection to the controller (PLC, microcomputer board, bar code reader, etc) or PC, refer to the following.

☞GOT 1000 Series Connection Manual

5. EMC DIRECTIVE

For the products sold in European countries, the conformance to the EMC Directive, which is one of the European Directives, has been a legal obligation since 1996. Also, conformance to the Low Voltage Directive, another European Directives, has been a legal obligation since 1997.
Manufacturers who recognize their products must conform to the EMC and Low Voltage Directives required to declare that their products conform to these Directives and put a "CE mark" on their products.

Point Products that the EMC Directive applies to are marked with the CE mark logo.

5.1 Requirements for Conformance to EMC Directive

The EMC Directive specifies that products placed on the market must "be so constructed that they do not cause excessive electromagnetic interference (emissions) and are not unduly affected by electromagnetic interference (immunity)".
The applicable products are requested to meet these requirements.
The sections 5.1.1 through 5.3.2 summarize the precautions on conformance to the EMC Directive of the machinery constructed using the GOT.
The details of these precautions has been prepared based on the requirements and the applicable standards control. However, we will not assure that the overall machinery manufactured according to these details conforms to the above-mentioned directives. The method of conformance to the EMC Directive and the judgment on whether or not the machinery conforms to the EMC Directive must be determined finally by the manufacturer of the machinery.

5.1.1 Standards applicable to the EMC Directive

The following products have shown compliance through direct testing (to the identified standards) and design analysis (forming a technical construction file) to the European Directive for Electromagnetic Compatibility (89/336/EEC) when used as directed by the appropriate documentation

Type : Programmable Controller (Open Type Equipment)
Models : MELSEC GOT series products, identified here, manufactured from April 1st, 2005
GT1155-QSBD and GT1150-QLBD (For this product see note under and over the page).

Standard		Remark
EN61131-2 : 2003 Programmable controllers - Equipment, requirement and tests	EMI	Compliance with all relevant aspects of the standard. (Radiated Emissions)
	EMS	Compliance with all relevant aspects of the standard. (ESD,RF electromagnetic field, EFTB, Surge, RF conducted disturbances and Power frequency magnetic field)

5.1.2 Control cabinet

The GOT is an open type device (device installed to another device) and must be installed in a conductive control panel or cabinet.
It not only assure the safety but also has a large effect to shut down the noise generated from GOT, on the control panel.

(1) Control cabinet

(a) Use a conductive control cabinet.

(b) When attaching the control cabinet's top plate or base plate, mask painting and weld so that good surface contact can be made between the cabinet and plate.

(c) To ensure good electrical contact with the control cabinet, mask the paint on the installation bolts of the inner plate in the control cabinet so that contact between surfaces can be ensured over the widest possible area.

(d) Earth the control cabinet with a thick wire so that a low impedance connection to ground can be ensured even at high frequencies. (22mm 2 wire or thicker is recommended.)

(e) Holes made in the control cabinet must be 10 cm (3.94inch) diameter or less. If the holes are 10cm (3.94inch) or larger, radio frequency noise may be emitted.
In addition, because radio waves leak through a clearance between the control panel door and the main unit, reduce the clearance as much as practicable.
The leakage of radio waves can be suppressed by the direct application of an EMI gasket on the paint surface.

(2) Connection of power and ground wires
Ground and power supply wires for the GOT must be connected as described below.

(a) Provide an earthing point near the GOT. Earth the power supply's FG terminal (FG: Frame Ground) with the thickest and shortest wire possible. (The wire length must be 30cm (11.18inch) or shorter.)
The FG terminal function is to pass the noise generated in the GOT to the ground, so an impedance that is as low as possible must be ensured. As the wires are used to relieve the noise, the wire itself carries a large noise content and thus short wiring means that the wire is prevented from acting as an antenna.
Note) A long conductor will become a more efficient antenna at high frequency.

(3) Electrical shock prevention
In order to such as the operators from electric shocks, the control box must have the following functions :

(a) The control cabinet must be equipped with a lock so that only skilled or qualified personnel.

(b) The control cabinet must be fitted with advice which automatically stops the power supply when the cabinet is opened.

(4) Dustproof and waterproof features
The control box also has the dustproof and waterproof functions. Insufficient dustproof and waterproof features lower the insulation withstand voltage, resulting in insulation destruction.
The insulation in our GOT is designed to cope with the pollution level 2, so use in an environment with pollution level 2 or better.

Pollution level 1: An environment where the air is dry and conductive dust does not exist.
Pollution level 2: An environment where conductive dust does not usually exist, but occasional temporary conductivity occurs due to the accumulated dust.
Generally, this is the level for inside the control box equivalent a control room or on the floor of a typical factory.

Pollution level 3: An environment where conductive dust exits and conductivity may be generated due to the accumulated dust.
An environment for a typical factory floor.
Pollution level 4: Continuous conductivity may occur due to rain, snow, etc.
An outdoor environment.

5.1.3 Grounding

It is necessary to use the GOT grounding terminal only when it is in the grounded condition.
Be sure to ground the grounding for the safety reasons and EMC Directives.

Functional grounding : Improves the noise resistance.

Products that the EMC Directive applies to are marked with the CE mark logo.

5.2 System Configuration when EMC Directive is Applicable

Connection conditions and models where the EMC Directive is applicable are shown below. (Available April, 2005)

5.2.1 About models applicable to the EMC Directive

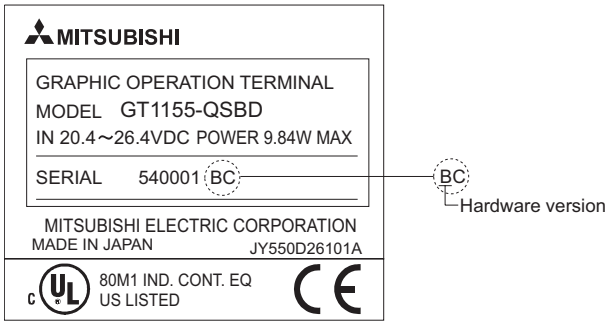
The following table lists the modules compliant with the EMC Directive.

○ : Compliant with EMC Directive ×: Not compliant with EMC Directive

Item	EMC Directive	Hardware version
GT1155-QSBD	○	B
GT1150-QLBD	○	B

Point

Please use the GOT whose hardware version is later than that described.
Confirm the hardware version with the products rating plate.
(Products that the EMC Directive applies to are marked with the CE mark logo.)



5.2.2 Connection format

Connection conditions where the GT11 is applicable to the EMC Directive are shown below.

Connection format: CPU direct connection (RS-422)

Point

If connecting to a PLC not from this company (MELSEC-FX2N series), refer to the manual of the connected device (PLC, microcomputer) for information about the applicability of the EMC Directive.

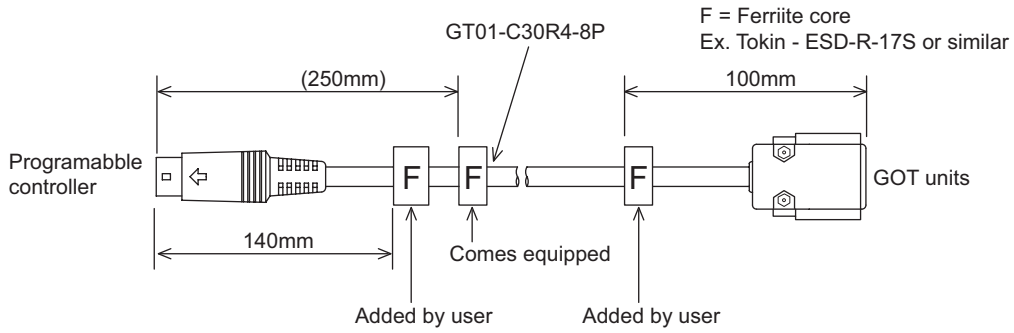
5.3 Wiring Precautions the Part which Matches the EMC Directives

Connect and wire GOT equipment as instructed below.
If the GOT equipment is configured in a way that differs from the following instructions then the system will not comply with EMC directives.

5.3.1 About the cable used

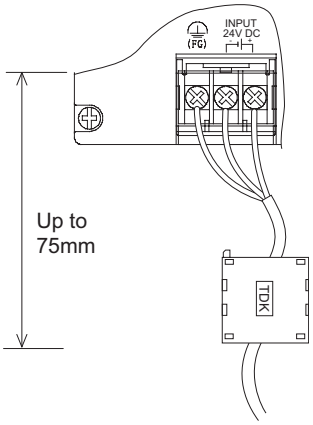
Any device which utilises a data communication function is susceptible to the wider effects of local EMC noise. Therefore, when installing any communication cables care should always be taken with the routing and location of those cables. The GOT units identified on the previous page are compliant with the EMC requirement when the following communication cables are used.

GOT Unit	Existing Cables	User Made Cables
GT1155-QSBD and GT1150-QLBD	GT01-C30R4-8P modified as shown in EX.1	Those cables need to be independently tested by the user to demonstrate EMC compatibility when they are used with Mitsubishi GOT unit and FX2N Programmable Controllers.



5.3.2 Method to connect the power wire and ground wire

The GT1155-QSBD and GT1150-QLBD unit requires an additional ferrite filter to be attached to the 24V DC power supply cables. The filter should be attached in a similar manner as shown in the figure opposite, i.e. the power cables are wrapped around the filter. However, as with all EMC situations the more correctly applied precautions the better the systems Electro-magnetic Compatibility. The ferrite recommended is a TDK ZCAT3035-1330 or similar. The ferrite should be placed as near to the 24V DC terminals of the GT1155-QSBD and GT1150-QLBD as possible (which should be within 75mm of the GOT terminal).



6. INSTALLATION

MOUNTING PRECAUTIONS

DANGER

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the GOT to/from the panel.
  Not doing so can cause the unit to fail or malfunction.
- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the option function board on to/from the GOT.
  Not doing so can cause the unit to fail or malfunction.
- When installing the option function board or battery, or operating the reset switch, wear an earth band etc. to avoid the static electricity.
  The static electricity can cause the unit to fail or malfunction.

MOUNTING PRECAUTIONS

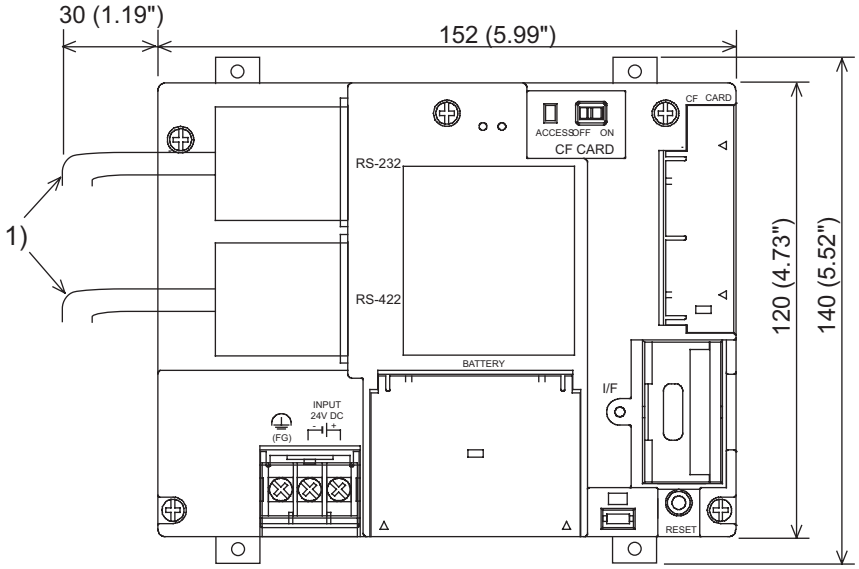
CAUTION

- Use the GOT in the environment that satisfies the general specifications described in this manual.
  Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- When mounting the GOT to the control panel, tighten the mounting screws in the specified torque range.
  Undertightening can cause the GOT to drop, short circuit or malfunction.
  Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT.
- Securely connect the option function board to the connector provided for the board.
- When inserting/removing a CF card into/from the GOT, turn the CF card access switch off in advance.
  Failure to do so may corrupt data within the CF card.
- When inserting a CF card into the GOT, push it into the insertion slot until the CF card eject button will pop out.
  Failure to do so may cause a malfunction due to poor contact.
- When removing a CF card from the GOT, make sure to support the CF card by hand, as it may pop out.
  Failure to do so may cause the CF card to drop from the GOT and break.

6.1 Control Panel Inside Dimensions for Mounting GOT

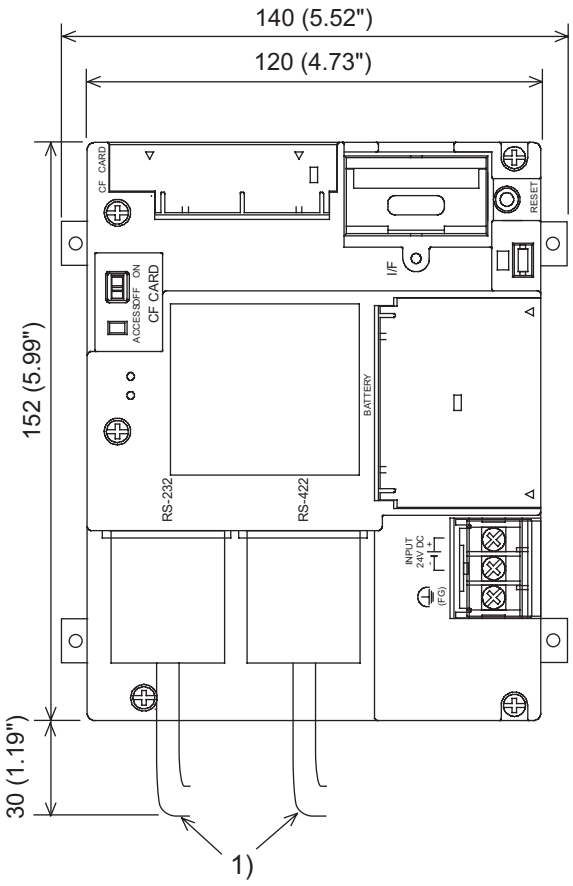
Mount the GOT onto the control panel while considering the following control panel inside dimensions.

Horizontal format



Unit: mm (inch)

Vertical format (If the vertical format is selected, the dimension, which is rotated 90 degrees clockwise looking from the display section side, is required.))



Unit: mm (inch)

No	Name
1)	PLC connection cable/PC connection cable

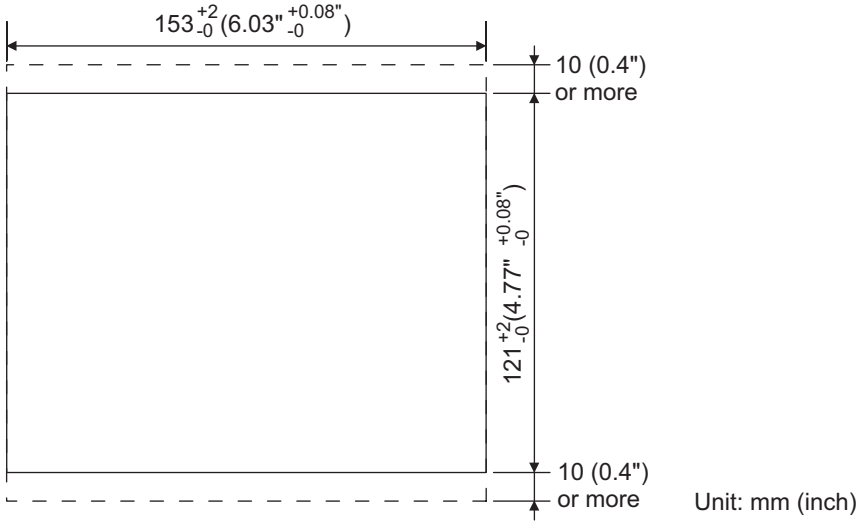
Point

Applicable cable

Some cables may need to be longer than the specified dimensions when connecting to the GOT.
Therefore, consider the connector dimensions and bending radius of the cable as well for installation.

6.2 Panel Cutting Dimensions

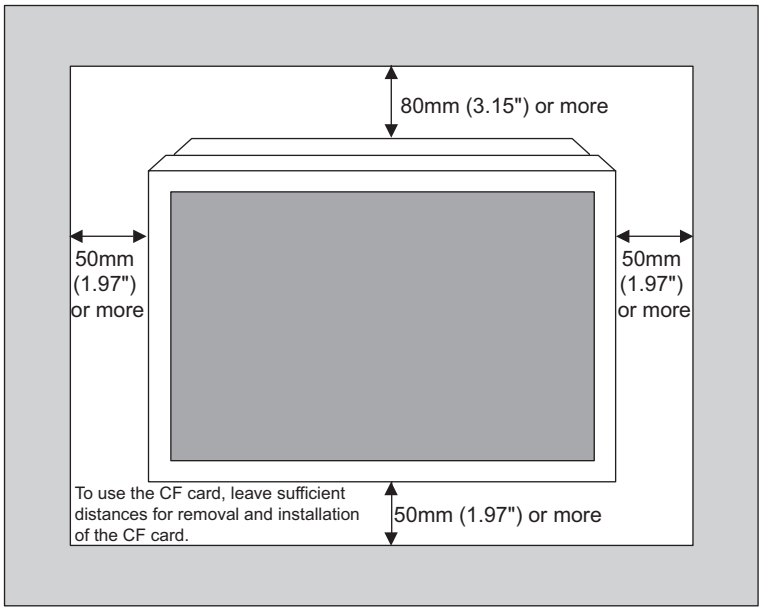
Make holes in the panel according to the dimensions list below.
Also, ensure 10mm of space in upper and lower parts of the panel for mounting fixtures.
Horizontal format (If the vertical format is selected, the dimension must be rotated 90 degrees.)



Unit: mm (inch)

6.3 Mounting Position

When mounting the GOT, the following clearances must be maintained from other structures and devices. The below diagram represents a horizontal installation. (The same clearances must be maintained when rotating the GOT 90 degrees clockwise for a vertical installation.)


80mm (3.15") or more
50mm (1.97") or more
50mm (1.97") or more
To use the CF card, leave sufficient distances for removal and installation of the CF card.
50mm (1.97") or more

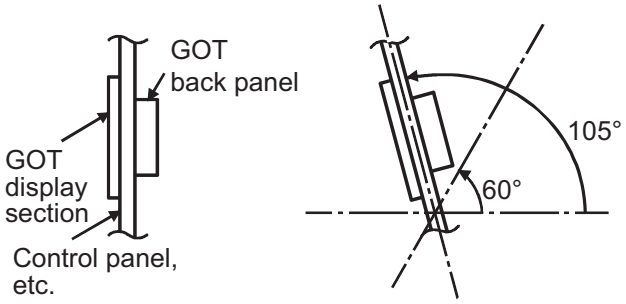
Secure 50mm (1.97") or more of clearance on the left, right and bottom sides of the GOT from other structures and devices.
Secure 80mm (3.15") or more on the top of the GOT for good ventilation.
If devices (such as a contactor) generating radiated noise or those generating heat are arranged around the GOT, secure 100mm (3.94") or more of clearance from the back panel.
When using the CF card, secure a sufficient distance on the left side to allow installation and removal of the CF card.
[Securing 100mm (3.94") or more is recommended.]

6.4 Control Panel Temperature and Mounting Angle

When mounting the main unit to a control panel or similar fixture, set the GOT display section as shown below.

1 Horizontal installation

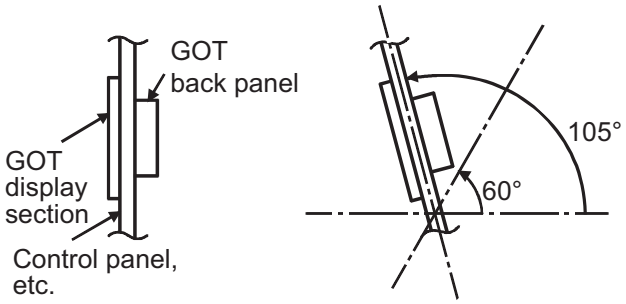
When the temperature inside the control panel is 40 to 55℃ , the mounting angle should be in the range from 60 to 105 degrees.



- The GOT will have a longer lifetime if used within the mounting angles shown above.
  Ideally, the temperature inside the control panel should not exceed 0 to 40℃

2 Vertical installation

When the temperature inside the control panel is 40 to 50℃, the mounting angle should be in the range from 60 to 105 degrees.



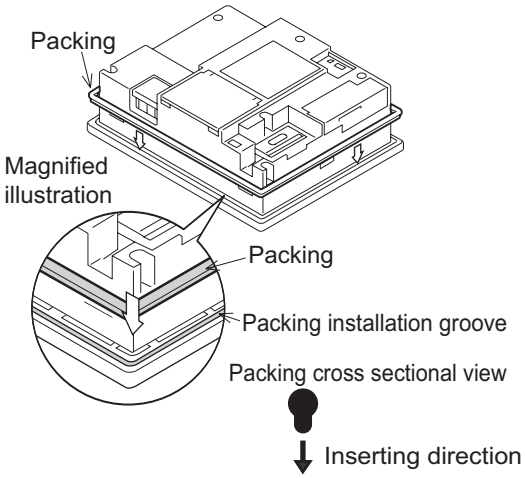
- The GOT will have a longer lifetime if used within the mounting angles shown above.
  Ideally, the temperature inside the control panel should not exceed 0 to 40℃.

6.5 Installation Procedure

The GOT is designed to be embedded into a panel.
Mount the GOT by following the procedure below.
For panel cutting dimensions, refer to Section 6.2.
Note that the panel thickness should be within 5mm.

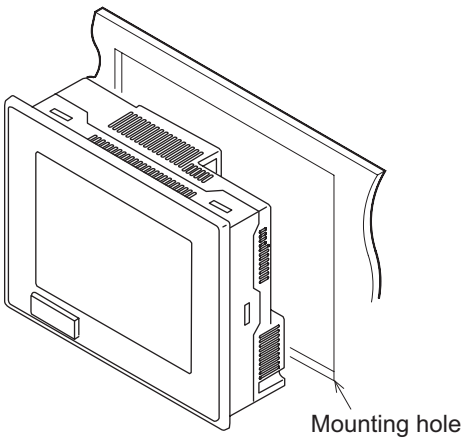
1 Installing the packing

Install packing to the packing installation groove on the back panel of the GOT.
While referring to the cross sectional view of the packing shown right, push the thinner side into the packing groove.



2 Inserting into the panel face

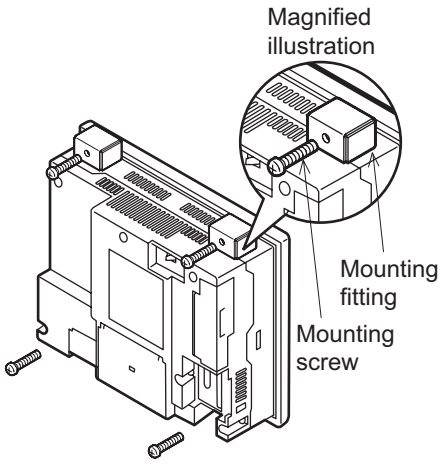
Insert the GOT from the front side of the panel.
(Right drawing is the example of lateral format.)



3 Fixing the GOT

Engage the hook of the mounting fitting (accessory) to the unit fixing hole of the GOT and tighten the screw until the GOT is fixed with the mounting bolt (accessory).
The GOT will be fixed in 4 upper/lower parts.
Tighten the mounting screw with the specified torque.
(Failure to do so may distort the panel and make a surface waviness on the protective sheet.)

Tightening torque	0.3 to 0.5N•m



4 A protection film is attached on the display section of GOT prior to shipment.
Remove the film when the installation is completed.

7. WIRING

WIRING PRECAUTIONS

DANGER

- Be sure to shut off all phases of the external power supply used by the system before wiring.
  Failure to do so may result in an electric shock, product damage or malfunctions.
- Please make sure to ground FG terminal of the GOT power supply section by applying 100Ω or less which is used exclusively for the GOT.
  Not doing so may cause an electric shock or malfunction.
- Correctly wire the GOT power supply section after confirming the rated voltage and terminal arrangement of the product.
  Not doing so can cause a fire or failure.
- Tighten the terminal screws of the GOT power supply section in the specified torque range.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT.
  Not doing so can cause a fire, failure or malfunction.

WIRING PRECAUTIONS

CAUTION

- Plug the communication cable into the connector of the connected unit and tighten the mounting and terminal screws in the specified torque range.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

This chapter describes the wiring to the GOT power supply section.

(1) For the connection with a PLC, refer to the following.

☞GOT1000 Series Connection Manual

(2) For the dimensional drawing of connection cables, refer to the following.

☞Appendix 1 External Dimensions

Remark

General preventive measures against noise

There are two kinds of noises: Radiated noise that is transmitted into the air and Conductive noise that is directly transmitted along connected lines.
Countermeasures must be taken considering both kinds of noises and referring to the following 3 points.

(1) Protecting against noise
  (a) Keep signal lines away from noise sources such as a power cable or a high-power drive circuit.
  (b) Shield the signal lines.

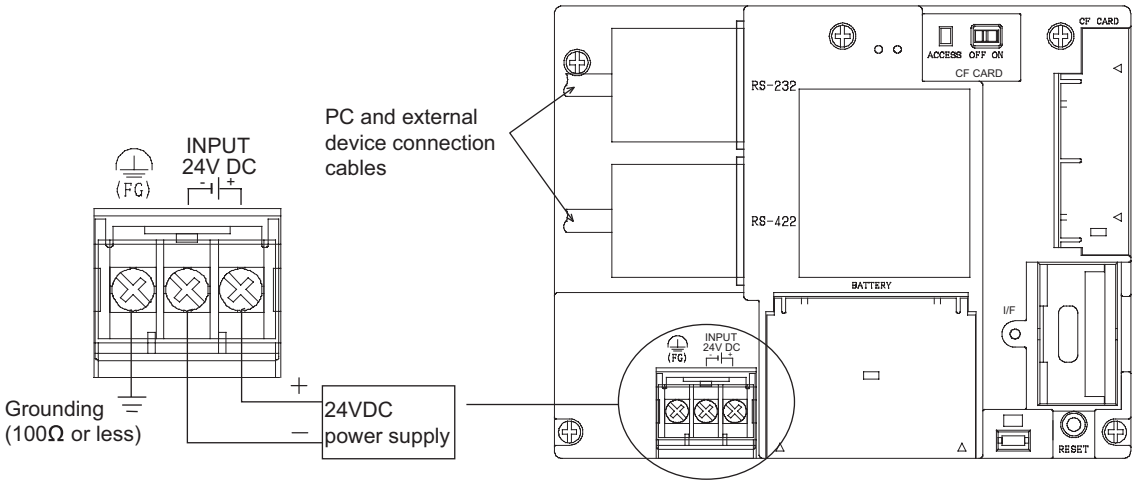
(2) Reducing generated noise
  (a) Use a noise filter, etc. to reduce the level of the noise generated due to a source such as a high-power motor drive circuit.

(3) Releasing noise to the ground
  (a) Make sure to connect the ground cable to the ground.
  (b) Use a short and thick cable to lower its impedance.
  (c) Ground the power system and the control system separately.

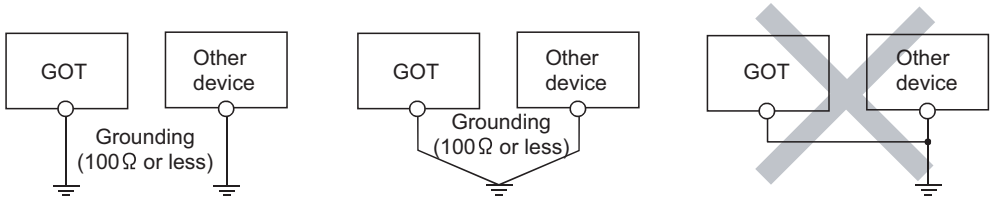
7.1 Power Supply Wiring

7.1.1 Wiring example

Connect the power supply to the power terminals on the back panel of the GOT.
Use 0.75mm^2 or thicker cables to avoid voltage drop and tighten the terminal screw with the specified torque securely.



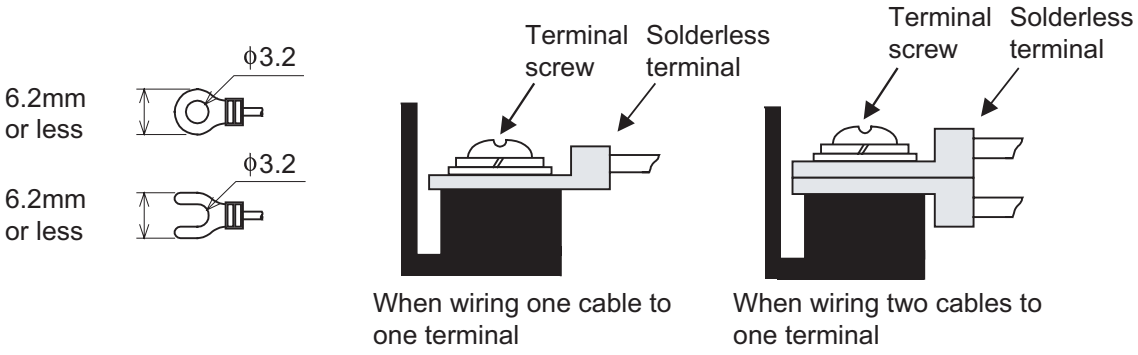
Make sure to carry out the followings for grounding.
- Carry out the independent grounding if possible.
- If the independent grounding is impossible, carry out the shared grounding as shown in fig.2) below.



(1) Independent ground ..... Best condition
(2) Shared grounding ..... Good condition
(3) Common grounding ..... Not allowed

- Use the cable of 2mm^2 or more for grounding.
  Set the grounding point closer to the GOT to make the grounding cable short as possible.

Recommended terminal shape



When wiring one cable to one terminal
When wiring two cables to one terminal

Cable size	For power supply: 0.75mm^2 min. For grounding: 2mm^2 min.
Solderless terminal	M3 solderless terminal (applicable solderless terminal: RAV 1.25-3, V2-N3A and FV2-N3A)
Tightening torque	0.5 to 0.8N•m

8. OPTION

8.1 CF Card

The CF card is used to transmit the OS or project data and to save the data of the alarm history function. Refer to the following for details.

☞ Chapter 13 FILE DISPLAY AND COPY (PROGRAM/DATA CONTROL)

8.1.1 Applicable CF card

The following CF cards are applicable for GT15□□.

Model	Description
GT05-MEM-32MC	Flash ROM 32MB
GT05-MEM-64MC	Flash ROM 64MB
GT05-MEM-128MC	Flash ROM 128MB
GT05-MEM-256MC	Flash ROM 256MB

Point

The flash PC card of the GOT-A900 series

In the GT11□□, the flash PC card for GOT-A900 series cannot be used.

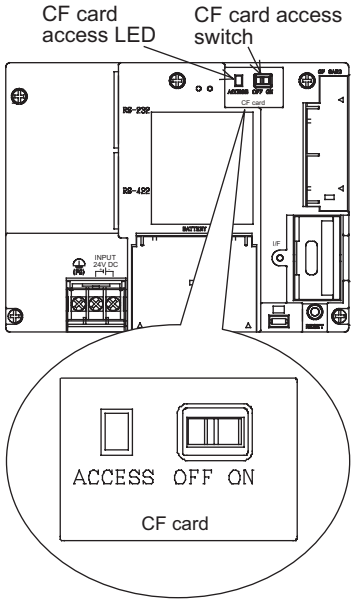
Use the CF card which is described in the above.

8.1.2 Installing and removing procedures of the CF card

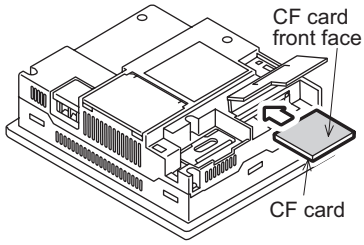
Install/remove the CF card with the power supply of GOT is OFF or CF card access switch is "OFF".

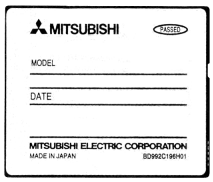
1 Installing

1 Set the CF card access switch of the GOT to "OFF", and make sure that the CF card access LED turns off. (When the CF card access LED turns off, the CF card can be installed even during the GOT power on.)



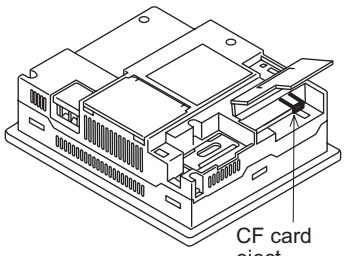
2 To install the CF card to the GOT, insert the CF card into the CF card interface with its front side outside.
Push-in the CF card until the CF card eject button snaps.





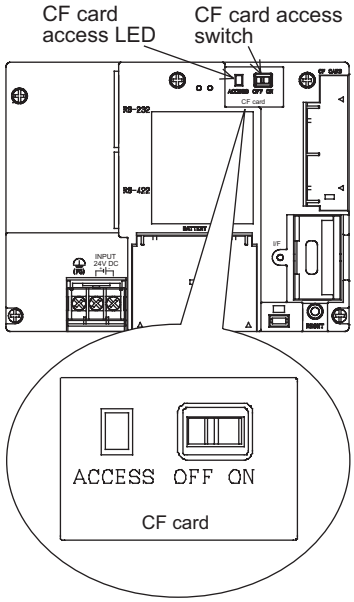
CF card front face

3 Turn the CF card access switch on.
After the CF card access switch is turned on, the CF card can be used.

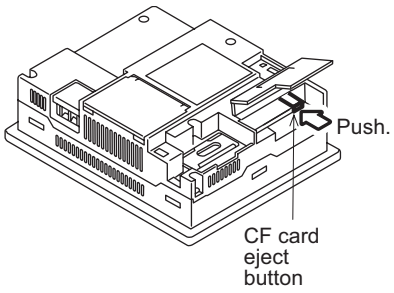


2 Removing

1 Set the CF card access switch of the GOT to "OFF."
Make sure that the CF card access LED turns off.
When the CF card access LED turns off, the CF card can be installed or removed even during the GOT power on.



2 Push-in the CF card eject button of the GOT to eject the CF card, and then remove the CF card.



Point

Precautions for removing the CF card

(1) While the CF card access LED is on, do not install/remove the CF card or power off the GOT.
To do so may cause data corruption or malfunction.

(2) When ejecting the CF card, support it by hand since it may pop out.
Failure to do so may cause a fall of the CF card leading to failure or damage of the card.

8.2 Memory Card Adaptor

- The memory card adaptor is used to convert the CF card into the memory card (Type II).
  Install the memory card adaptor to a PC equipped with a PCMCIA interface, to write the OS or project data on the CF card from the PC or load alarm history data from the CF card to the PC.
  Refer to the following for the details related to CF card.

☞Section 8.1 CF Card

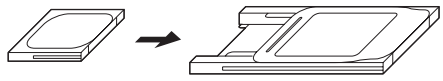
8.2.1 Applicable memory card adaptor

The following memory card adaptor is applicable.

Model	Contents
GT05-MEM-ADPC	Adaptor converting from CF card to memory card (Type II)

8.2.2 Installing procedure of the CF card into a memory card adaptor

Fit the CF card in the memory card adaptor.



CF card Memory card adaptor

8.3 Option Function Board

To use the optional functions, the option function board is necessary.
Refer to the following for the functions requiring the option function board.

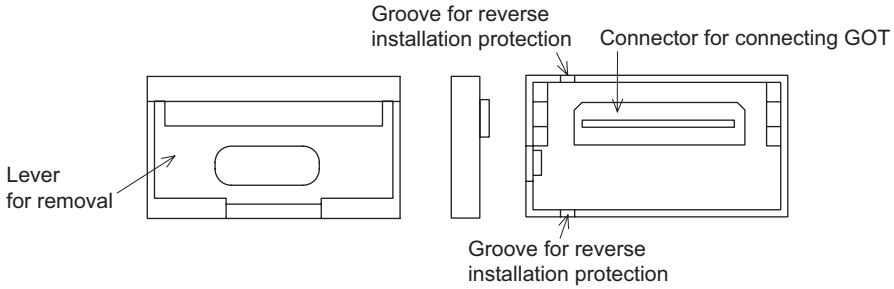
☞GT Designer2 Version□ Screen Design Manual

8.3.1 Applicable option function board

The following option function board is applicable for GT11□□.

Model	Contents
GT11-50FNB	Option function board

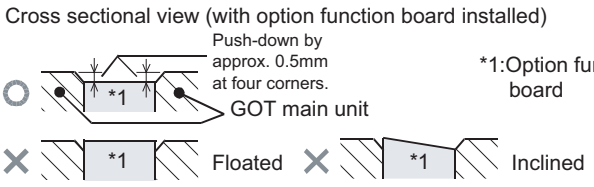
8.3.2 Part names


Groove for reverse installation protection
Connector for connecting GOT
Lever for removal
Groove for reverse installation protection

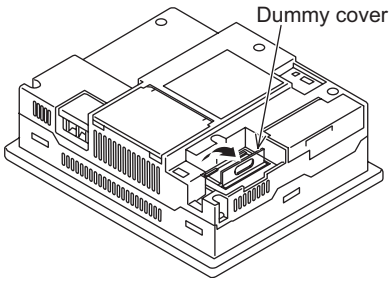
8.3.3 How to install or remove the option function board

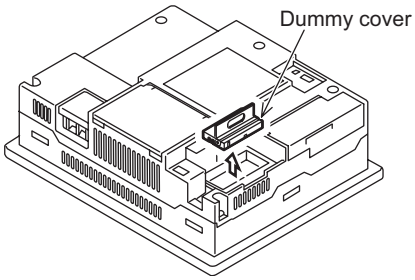
1 Installing

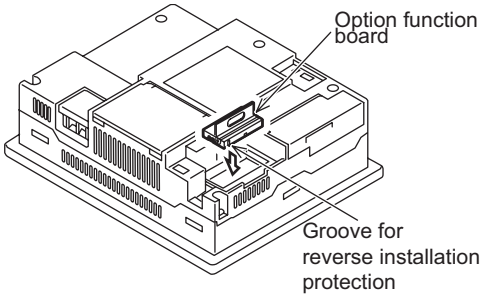
1. Turn the GOT power off.
2. Rise the lever on the dummy cover with a fingernail as shown in the figure on the right.
3. Pinch the lever with fingers and pull-up it vertically to remove the dummy cover.
4. Install the option function board to the option function board connector on the back panel of the GOT.
   Push-down the option function board by approximately 0.5mm with fingers along the groove for reverse installation protection.



Do not keep the option function board in a floated or inclined status.
Do not touch the circuit board in the GOT main unit during the option function board installation.

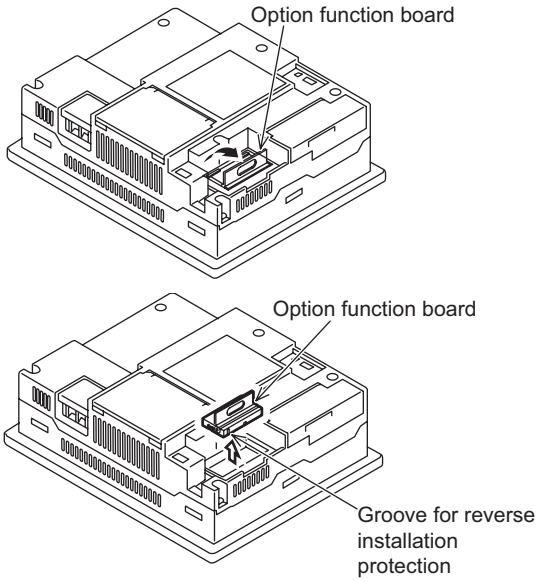






2 Removing

1. Turn the GOT power off.
2. Rise the lever for removing the option function board with a fingernail as shown in the figure on the right.
3. Pinch the lever with fingers and pull-up it vertically to remove the option function board.



Point

Precautions for installing/removing the option function board

(1) Do not twist the lever when removing the option function board. Otherwise the lever may be broken.

(2) Install the dummy cover when not using the option function board.

8.4 Battery

The battery backs up clock data, alarm history and recipe data.
A battery is installed to GT11□□ when the GT11 is shipped from the factory.

8.4.1 Applicable battery

The following battery is applicable for GT11□□.

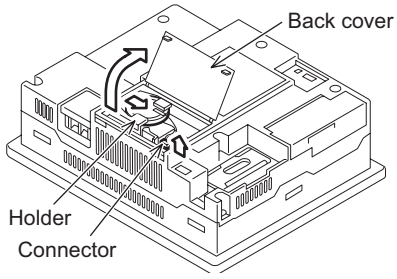
Model	Contents
GT11-50BAT	Battery for backup of clock data, alarm history and recipe data

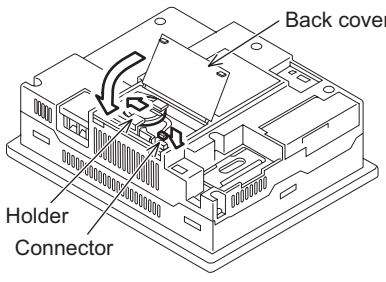
8.4.2 Battery specifications

Item	Specifications
Type	Magnesium manganese dioxide lithium primary battery
Initial voltage	3.0V
Storage life	Approx. 5 years (Operating ambient temperature of 25℃)
Application	For backup of clock data, alarm history and recipe data

8.4.3 Battery replacement procedure

Replace battery periodically at intervals of 4 to 5 years as reference.





1. Turn the GOT power off.
2. Open the back cover of the GOT.
3. Remove the old battery from the holder.
4. Disconnect the old battery connector and insert the new battery connector within 30s.
5. Insert the new battery into the holder and close the back cover.
6. Turn the GOT power on.
7. Check if the battery condition is normal with the utility.
   Refer to the following for the details of battery status display.

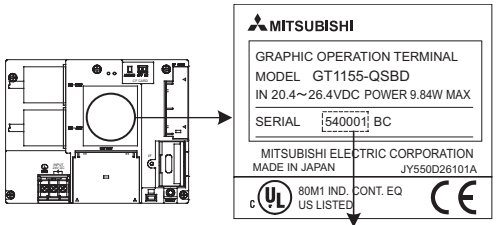
☞Chapter 12 CLOCK SETTINGS AND BATTERY STATUS DISPLAY (TIME SETTING AND DISPLAY)

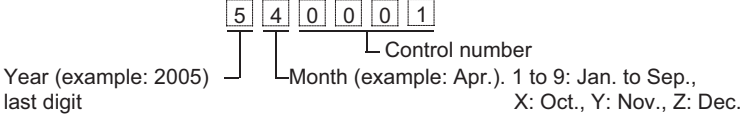
Point

(1) Battery life

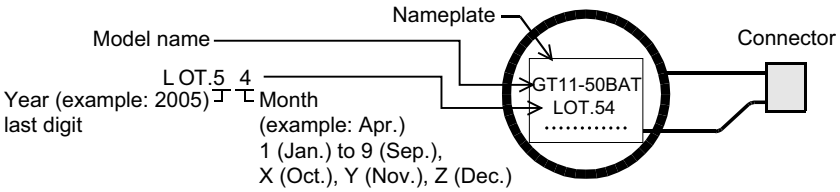
The battery life is approximately 5 years.

The production date of the battery built in the purchased GOT can be confirmed by the production No. (serial No.) marked on the GOT main unit.





The production date of the optional replacement battery can be confirmed by the lot No. marked on the nameplate (label) affixed on the battery.



(2) Battery procurement

The battery is susceptible to natural discharge. Order one when necessary.

8.5 Protective Sheet

The protective sheet is used to protect the operation surface from damage or dirt when the touch key of GOT display section is operated.

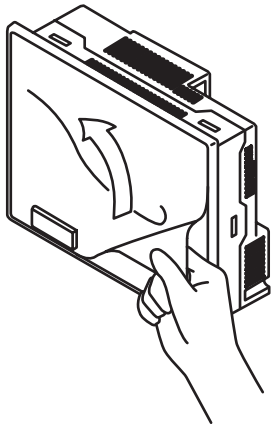
8.5.1 Applicable protective sheet

The following protective sheets are applicable for GT11□□.

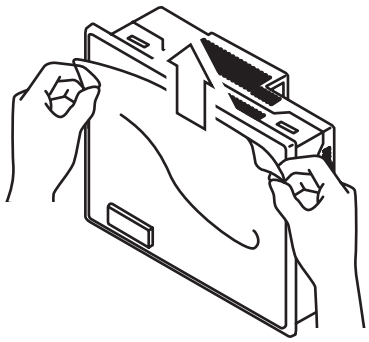
Product name	Model	Contents	
Protective sheet	GT11-50PSCB	Protective sheet for 5.7"	Clear 5 sheets
	GT11-50PSGB		Antiglare 5 sheets
	GT11-50PSCW		Clear (Frame: White) 5 sheets
	GT11-50PSGW		Antiglare (Frame: White) 5 sheets

8.5.2 Installing procedure

1 Remove the old protective sheet from the GOT holding the lower right corner, and clean the GOT surface.



2 Peel the release paper from the back of the new protective sheet, and attach its adhesive side to the GOT display section.
When attaching the protective sheet, make sure to fit it on the display section closely without leaving any clearance between them.



Remark Replacement time of protective sheet

Check the status of the protection sheet visually by to the daily inspection. The visibility becomes worse when there is too much dirt and cracks, causing malfunction. Proceeds replacement promptly.

8.6 USB Environmental Protection Cover

The USB environmental protection cover protects the USB connector on the front face of GOT from dust, water, and oil.
The GOT is installed with the USB environmental protection cover at factory shipment.
Replace when damage and deterioration are caused.

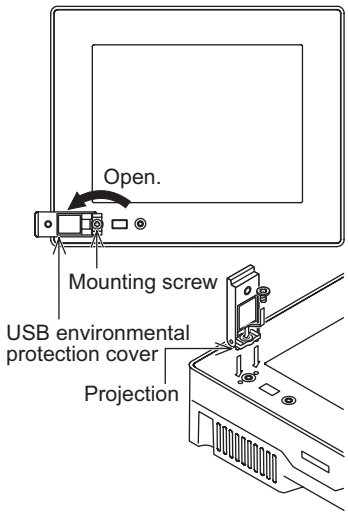
8.6.1 Applicable USB environmental protection cover

The following USB environmental protection cover is applicable for GT11□□.

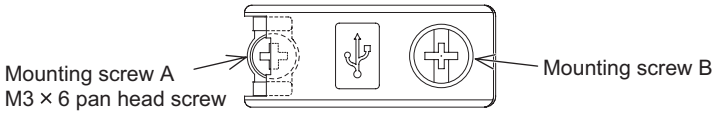
Product name	Model	Contents
USB environmental protection cover	GT11-50UCOV	Environmental protection cover for USB interface on the main unit front panel (conforming to IP67)

8.6.2 Installing procedure

1. Turn the GOT power off.
2. Disconnect the USB cable from the GOT if one is connected.
3. Open the USB environmental protection cover equipped with the GOT and remove the mounting screws.
4. Remove the old USB environmental protection cover from the GOT to replace it with the new USB environmental protection cover.
5. Fix the new USB environmental protection cover while fitting its projection to the hole in the GOT, and mount the cover to the GOT, using the mounting screws.



Tightening torque	0.36 to 0.48N•m for both mounting screws A and B



Point

Precautions when the USB environmental protection cover is opened

Environmental protective structure of USB interface is "IP2X" when the USB environmental protection cover is opened.

8.7 Stand

Stand is used to fix the GOT to standing status in order to debug the monitor screen data easily.

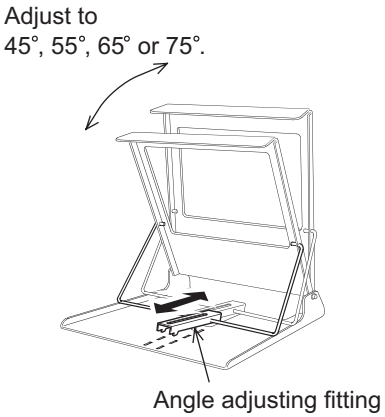
8.7.1 Applicable stand

The following stand is applicable for GT11□□.

Product name	Model	Contents
Stand	A9GT-50STAND	Stand for 5.7"

8.7.2 Installing procedure

1 Adjust the mounting angle of GOT with the angle adjusting fitting of the stand.

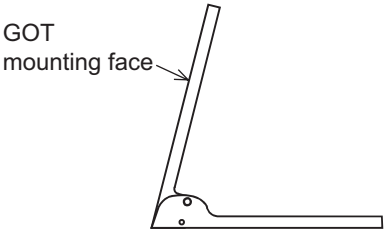


2 Put the GOT into the stand from the stand front side and fix it using the fixtures.
For how to mount the GOT, refer to the following.

☞Section 6.5 Installation Procedure

For details of the stand, refer to the following.

☞A9GT-50STAND User's Manual



9. UTILITY FUNCTION

Utility is a function, which carries out connection of GOT and PLC, screen display and operation method settings, program/data control and self-check etc.

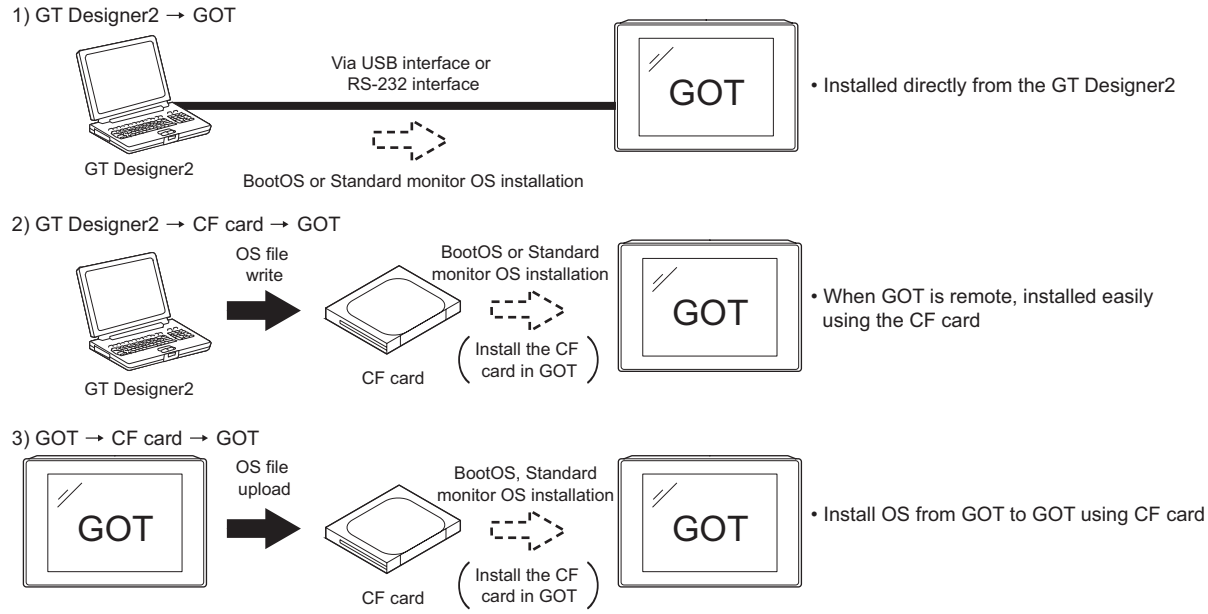
Refer to the following for the utility function list.

☞ Section 9.2 Utility Function List

9.1 Utility Execution

For utility execution, utility has to be displayed by installing BootOS and Standard monitor OS in the C drive (Flash memory).

There are following three types for the installing Standard monitor OS methods.



Refer to the following for the installation which uses GT Designer2.

☞ GT Designer2 Version□ Basic Operation/Data Transfer Manual
Chapter 8 TRANSFERRING DATA

Refer to the following for the installation which uses GOT.

☞ Chapter 16 INSTALLATION OF CoreOS, BOOTOS AND STANDARD MONITOR OS

9.2 Utility Function List

The items in the following list can be set/operated on the utility screens.

Item			Functions overview
Communication setting *1			Setting of channel number for the communication interface and assignment of communication driver
	Detail settings		Setting of communication parameter.
			Sequence program protection key word setting. (When FX series PLC is connected)
			Sequence program protection key word deleting. (When FX series PLC is connected)
			Sequence program protection status cancel. (When FX series PLC is connected)
GOT setup	Display		Setting of opening screen time.
			Setting of screen saving time.
			Setting of screen saving back light ON/OFF.
			Switching message language. (Japanese/English)
		Brightness, contrast	Liquid crystal intensity setting.
			Liquid crystal contrast setting
	Operation		Setting of buzzer volume.
		Security setting *2	Security level change. (security password input of each object)
		Utility call key	Setting of the menu call key.
		Key sensitivity	Key sensitivity setting
		Key reaction speed	Display of key reaction speed
Time setting & display *3			Selection of base clock.
			Display current time of clock.
			Set current time of clock.
			Display of battery status.
Program/data control	OS information		Installing OS.
			Uploading OS.
			Property display of OS. (Kind, version, and date)
			Data check of system file. (OS)
	Project Information		Downloading project file.
			Uploading project file.
			Project file deleting.
			Copying project file. (A drive → A drive)
			Property display of project file. (Date, version and screen title)
			Data check of project file.
	Alarm information		Deleting alarm log file.
			Copying alarm log file.
	Memory card format		Formatting of CF card and Internal SRAM
	Memory information		Display of free memory space in GOT

Item			Functions overview
Debug & Self check	Debug	System monitor	Device monitor of PLC, Test function, Present value change of the buffer memory monitor and the buffer memory of intelligent module
		A List editor	Sequence program and parameter change of ACPU
		FX list editor	Sequence program and parameter change of FX PLC
	Self check	Memory check	A drive memory check (Standard CF card)
			C drive memory check (Built-in flash memory)
		Drawing check	Missing bits, color, draw, display and overlap display check of liquid crystal
		Font check	Installed fonts check
		Touch panel checking	Touch panel operation check
		I/O check	Connected target confirmation
			Self-loopback check*3
Clean	Clean		Display the screen to clean the display section.

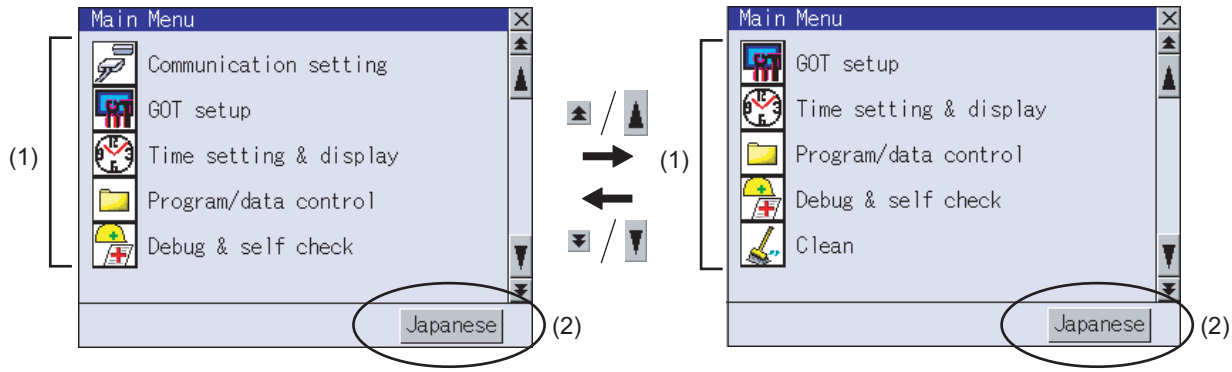
*1: Perform the following with the GT Designer2.
- Installing the communication driver
- Downloading the project data with communication settings (channel number and communication driver assignment)

*2: It is necessary to set the security level with GT Designer2.

*3: It is necessary to install the RS-232 connector for test. (Section 14.7 I/O Check)

9.3 Utility Display

To display setting screens for each utility, the main menu must displayed first.
(The utility screen is a factory installed horizontal format screen that cannot be edited.)



(1) Main menu

The menu items that can be selected from the GOT utility are displayed.
Touching a menu item in the main menu will display the setting screen or following selection screen for the item.

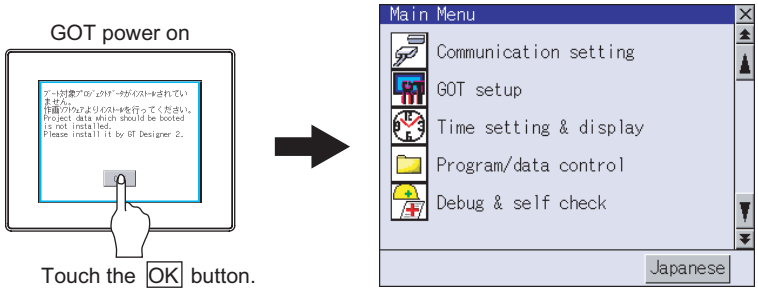
(2) System message switch button

This button switches the language used for the utility screen and system alarms.
For the screens above, touching the Japanese button will reboot the GOT and switch the language to "Japanese". (The button display switches to English at the same time.)

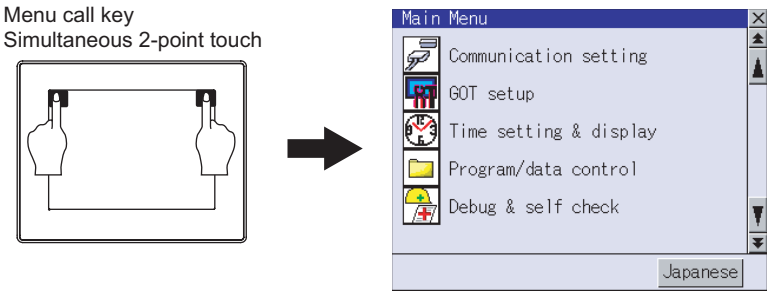
9.3.1 Display operation of main menu

The following three types of operation can display the main menu.
(Display the main menu after installing the Standard monitor OS from GT Designer2 to the GOT Flash memory (Internal).)

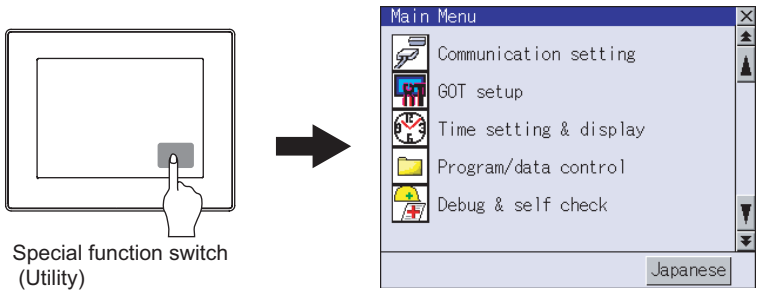
(1) When project data is undownloaded
After the GOT is turned on, a dialog box for notifying of absence of project data is displayed. After the dialog box is displayed, touch the OK button to display the main menu.



(2) When touching menu call key
If you touch the menu call key while user-created screen is displayed, the main menu is displayed.
The menu call key can be set by the GOT utility or GT Designer2.
(At factory shipment, the GOT is set to "Simutaneous 2-point presses on GOT screen upper-right and upper-left corners".)



(3) When touching special function switch (utility)
If you touch the special function switch (utility) while user-created screen is displayed, the main menu is displayed.
The special function switch (utility) can be set as a touch switch that is displayed on a user-created screen by GT Designer2.



For the details of the special function switch, refer to the following.

☞ GT Designer2 Version□ Screen Design Manual
Section 6.2 Touch Switch

Point

When the utility call key is set in one place.

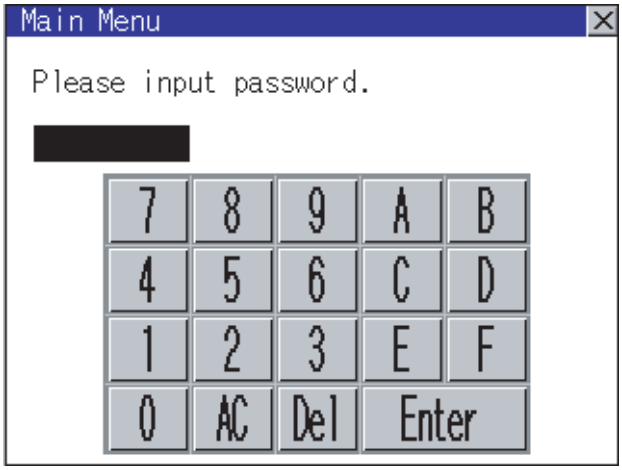
When the utility call key screen "Pressing Time" is set to a non-zero value, hold the utility call key continuously until the utility is displayed.
Refer to the following for infomation about utility call key settings.

☞ Section 11.5 Utility Call Key Setting

Remark

Lock the utility display by password.

When a password is set on the GOT using GT Designer2, a password dialog box is displayed when trying to access the main menu of the utility display.
(The password setting option in GT Designer2 is located in the common menu.)



When the password is not matched, the following error message is displayed.

When touching [OK], the screen returns to the monitor screen.

Input operation of password

1) Input the password after touching [0] to [9], [A] to [F] key.
2) Define the password by touching [Enter] key, after inputting password.
3) To correct the input character, touch [Del] key to delete the correcting character and then reinput/retype the new character.

(1) Password input cancel operation

When [☒] button is touched, the screen returns to the monitor screen.

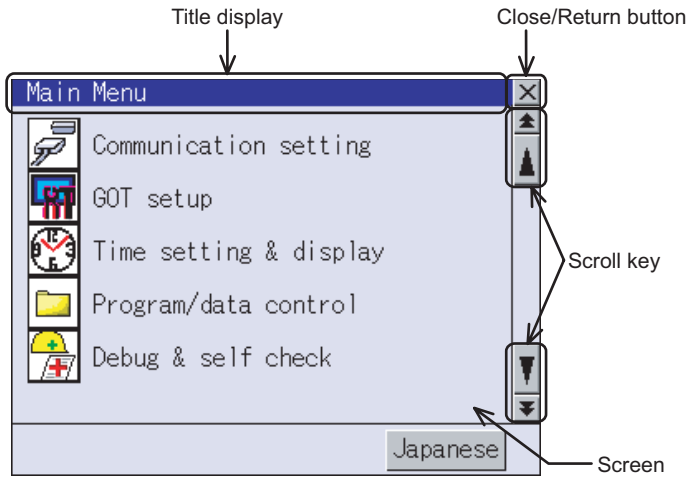
Refer to the following for details on setting passwords.

☞GT Designer2 Version□ Screen Design Manual

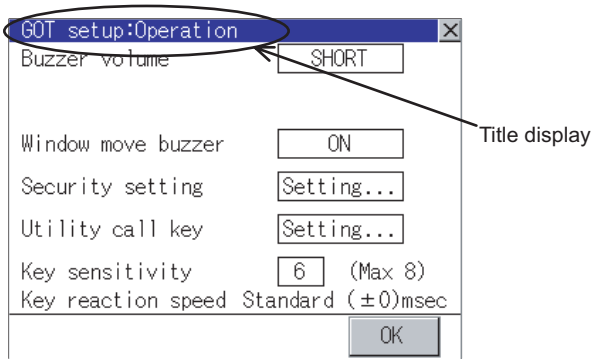
Section 3.5 Password Setting

9.3.2 Utility basic configuration

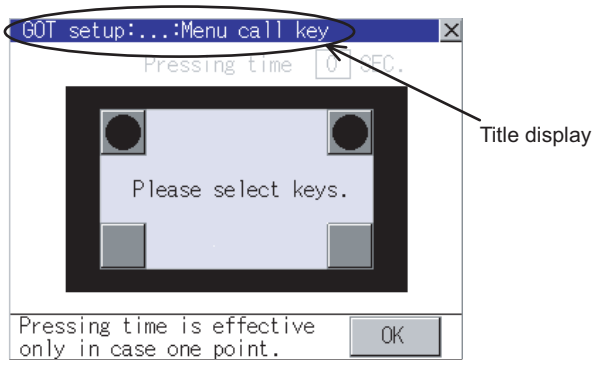
The basic configuration of the screen is as follows.



(1) Title display



The screen title name is displayed in title display part.
As the screen is composed of multiple layers, the title including these layers is displayed.



If the title overflows the title display area, the middle section is omitted and "..." is displayed at the section.

(2) Close/Return button

When a middle screen of the layers is displayed, if the ☒ (Close/return) button in the right corner of screen is touched, returns to the previous screen.
If this button is touched when directly displayed from monitor screen, the screen is closed and returns to monitor screen.

(3) Scroll button

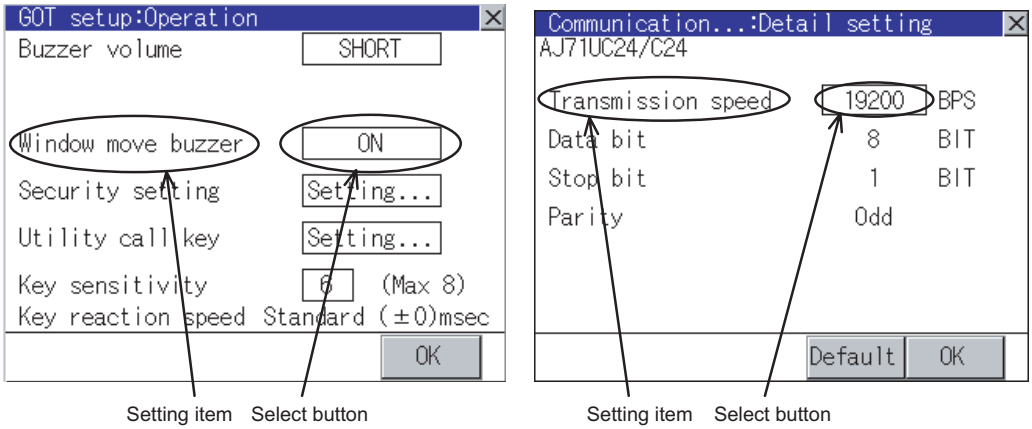
For screens in which the content does not fit on one screen page, there is a right or down scroll button on the screen.

▲ ▼ ◀ ▶ Scroll one line/column

⏫ ⏬ ⏪ ⏩ Scroll window

9.3.3 Basic operation of settings change

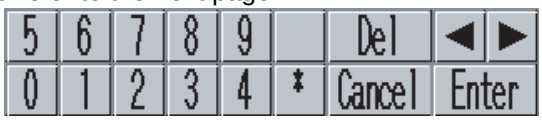
1 Change of setting value



1 Touch the select button (setting point) on the screen.

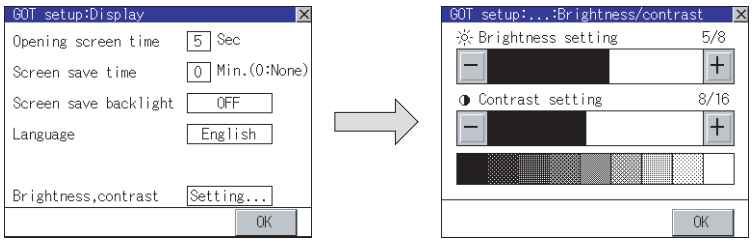
- OK Key: It is a key for selecting the setting value. Repeats with each touch ON OFF .
- Numerical Key: It is a key for inputting the numerical value. It displays the keyboard on the bottom of the screen when touched.

In the above mentioned screen example, there is no setting item which displays the keyboard. For the operation of keyboard refer to the next page.



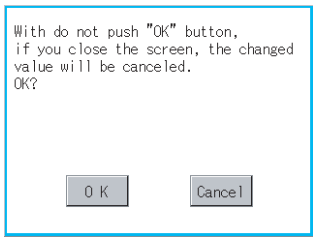
Touching Enter confirms the numerical input.
When the setting range exists it repeats the numerical without displaying keyboard.
Example: 4800bps 9600bps 19200bps

- Setting... Key: It shifts to the setting screen of each setting item when touched.



2 Setting contents are reflected if OK button is touched.

3 If ☒ button is pressed without touching OK button, the dialogue below is displayed and the changes are canceled, then the dialog box is closed.

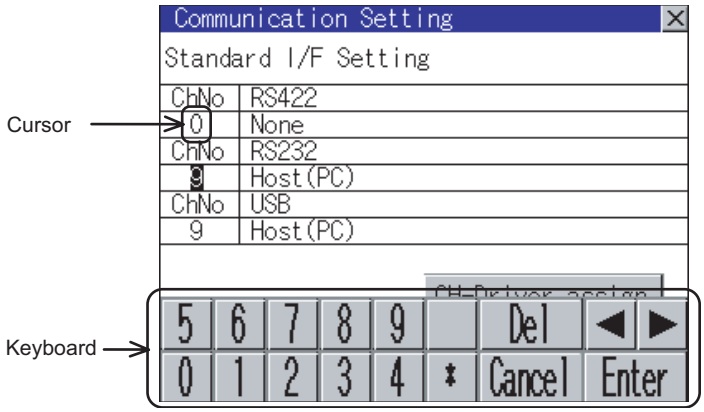


OK button : The changed value is canceled, and the screen is closed.
Cancel button : The operation setting screen is displayed.

2 Keyboard operation

1 Touch the numerical value to be changed.

2 Keyboard for numerical input is displayed and cursor is displayed simultaneously.
The key board display position changes by the position of numerical value touched.
(At the time of numerical input, displayed in the position which will not interrupt the inputting.)



3 Input numeric with keyboard.

- 0 to 9 Key : Input the numeric.
- Enter Key : Touching the Enter key completes numeric input and closes the keyboard.
- Cancel Key : Touching the Cancel key cancels numeric input and closes the keyboard.
- ◀ ▶ Key : Moves the cursor left or right if there is an item that can be entered.
- Del Key : Del key is used when canceling the input by 1 character.
- * key and the key which is not mentioned do not function.

4 If Enter key is touched, numeric input is completed and keyboard is closed.

10. COMMUNICATION INTERFACE SETTING (COMMUNICATION SETTING)

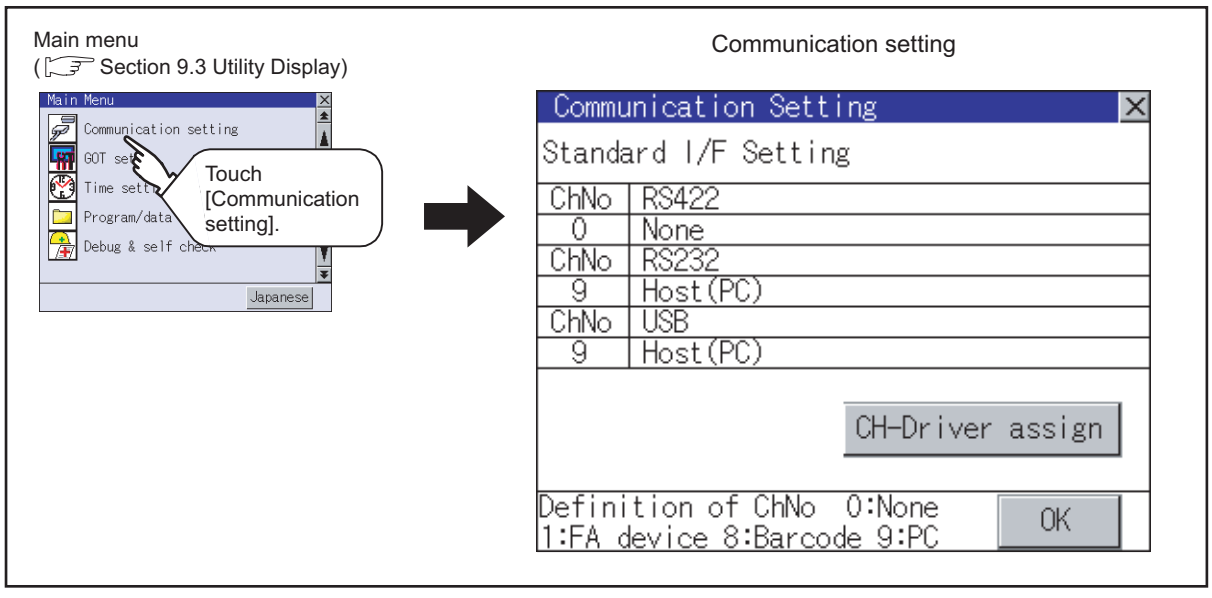
In [Communication Setting], the communication interface names and the related communication channel, communication driver names display and channel numbers are set.
Moreover, in [Communication Detail setting], the communication interface details are set. (Communication parameters setting)

10.1 Communication Setting

10.1.1 Communication setting functions

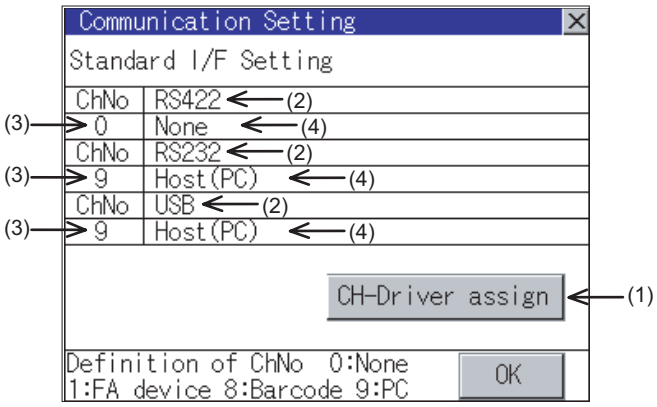
Function	Contents
Channel-Driver assign	Change the assignment of channel No. and communication driver name.
Channel no. (Ch No.) setting	Set the channel numbers of the communication interface.
Communication parameters setting	Set communication parameters of communication devices.

10.1.2 Communication setting display operation



10.1.3 Description of communication setting screen

Name of setting item and display item columns for [Communication Setting]



(1) Channel - Driver assign

(a) Assigning channel No.

Channel No.s can be assigned to each of the communication drivers installed in the GOT. Without setting [Communication Settings] in GT Designer2, communication with PLC CPU is only available after assigning a channel No. with this function.

(b) Changing communication driver

The communication driver assigned to the channel can be changed using the communication setting.

(To change the communication driver, it is required to pre-install the communication driver to be changed in the GOT.) ☞ Section 10.1.4 Operation of communication setting

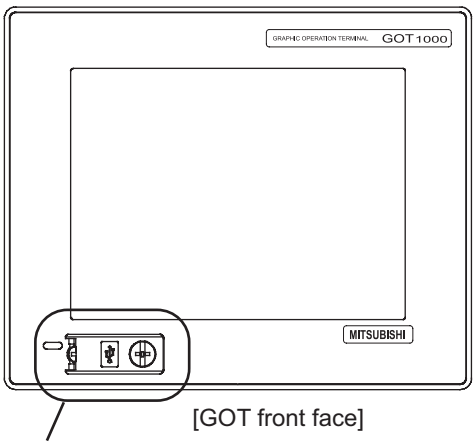
(2) Standard interface display box: Communication interface included as standard in GT11☐☐

The standard interface includes the following three types.

RS232 ....For communication with PC (GT Designer2), PLC, microcomputer, bar code reader and other equipment

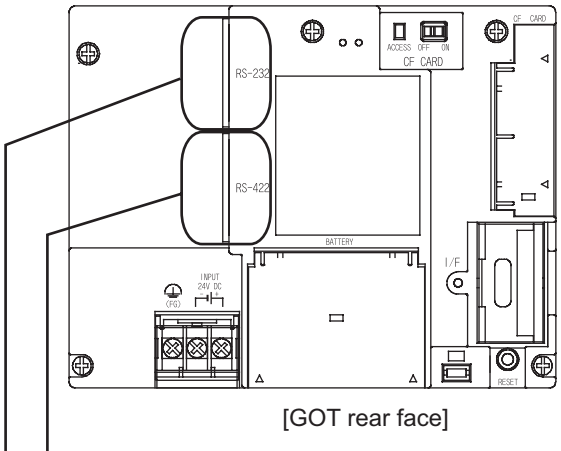
RS422 ....For communication with PLC and microcomputer

USB.....For communication with PC (GT Designer2)



[GOT front face]

USB interface (Standard interface) (mini)



[GOT rear face]

RS-422 interface (Standard interface)

RS-232 interface (Standard interface)

(3) Channel number specification menu BOX

0: Set when the communication interface is not used.

1: Set when connecting to PLC or microcomputer. (Only one can be set among arbitrary communication interfaces.)

8: Set when connecting to a bar code reader.

9: Set when connecting to PC (GT Designer2). (For USB and RS-232 interfaces, the simultaneous setting is possible. However, when either interface is communicating, the communication is not allowed for another interface.)

- Setting is not allowed for 2 to 7, *.
- Fixed to 9 for the USB interface.

(4) Driver display BOX

The name of the communication driver for which a channel number is assigned is displayed. The displayed names are shown below.

Communication driver name	Connection	Corresponding communication interface	Corresponding channel No.
A/QnA/Q CPU, QJ71C24	Direct connection to A/QnA/Q Series CPU, QJ71C24 computer link connection	RS-232/RS-422	1
MELSEC-FX	Direct connection to FX series PLC		
AJ71QC24	QnA computer link connection		
AJ71UC24/C24	A computer link connection		
CC-Link(G4)	CC-LinkG4 connection (Q mode)		
OMRON SYSMAC	Connection to OMRON SYSMAC		
KEYENCE KV-700/1000	Conection to KEYENCE KV700-/1000		
SHARP JW	SHARP JW connection		
TOSHIBA RPOSEC T/V	TOSHIBA RPOSEC T/V connection		
HITACHI HIDIC H	HITACHI HIDIC H connection		
HITACHI HIDIC H2	HITACHI HIDIC H (Protocol 2) connection		
MATSUSHITA MEWNET-FP	MATSUSHITA MEWNET-FP connection		
YASKAWA GL	Connection to YASKAWA GL/CP9200/CP9300		
YOKOGAWA FA500/FA-M3	Connection to YOKOGAWA FA500/FA-M3		
AB SLC500, AB 1: N	Allen-Bradley SLC500, Allen-Bradley PLC (1:N) connection	RS-232	
AB MicroLogix	Allen-Bradley MicroLogix connection		
SIEMENS S7-200	SIEMENS S7-200 connection		
SIEMENS S7-300/400	SIEMENS S7-300/400 connection		
Microcomputer connection	Microcomputer connection	RS-232/RS-422	
THERMAC/INPANEL NEO	Connection to OMRON THERMAC/INPANEL NEO		
YAMATAKE SDC/DMC	Connection to YAMATAKE SDC/DMC		
RKC SR Mini HG	Connection to RKC SR Mini HG		
FREQROL 500/700	Connection to FREQROL 500/700		
MELSERVO-J3/J2S/M	Servo amplifier connection		
Bar code	Bar code reader connection	RS-232	8
Host (PC)	Host (PC) connection (for communication with GT Designer2)	RS-232/USB	9

"None" is displayed in the driver display BOX in the following cases :

• The communication driver is not installed. (☞Section 13.2 OS Information)

• "0" is set in the channel number specification menu BOX.

When setting the channel number to "9", the communication driver "Host (PC)" is automatically assigned.

Point

Precautions for communication between GOT and connected devices

(1) Installing [Communication driver] and downloading [Communication Settings]

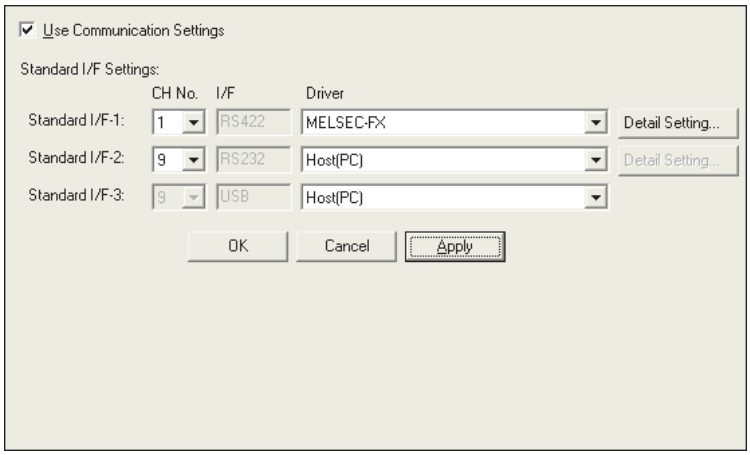
To perform communication with the connected device, the following actions are necessary.

1) Installing [Communication driver] (Up to 4, OS installation)

2) Assigning channel number and communication driver to communication interface (Communication Setting)

3) Downloading [Communication Settings] (project data) assigned in step 2)

Perform 1), 2) and 3) with GT Designer2.



For [Communication Settings], refer to the following manual.

☞GT Designer 2 Version□ Screen Design Manual
Section 3.7 Communication Interface Setting (Communication settings).

For installation of [Communication driver] (OS) and download of project data, refer to the following manual.

☞GT Designer 2 Version□ Basic Operation/Data Transfer Manual
Chapter 8 TRANSFERRING DATA

(2) When [Communication Settings] has not been downloaded using GT Designer2

When [Communication Settings] has not been downloaded, the GOT automatically assigns the installed communication driver as the RS422 interface. When multiple communication drivers are installed, the GOT automatically assigns the first-installed communication driver to the RS422 interface.

To assign the communication driver to the RS-232 interface or to change the already assigned communication driver, change the settings in the [Communication Settings] of the utility screen or in the [Communication Settings] of GT Designer2.

(a) Priority of [Communication Settings] of GT Designer2

When [Communication Settings] is downloaded to the GOT from GT Designer2 after automatic assignment, the GOT will operate according to the [Communication Settings] of GT Designer2.

10.1.4 Operation of communication setting

1 Channel and driver assignment operation

The operation method for the channel and communication driver assignment is described here.
In this section, the case for changing the computer link connection (Communication driver: [AJ71QC24]) to CPU direct connection (Communication driver: [A/QnA/QCPU, QJ71C24]) is described.
(In the present example, [Communication Settings] is not downloaded.)

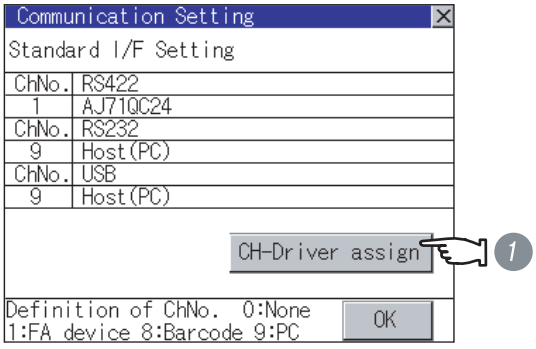
Point

Before starting operation

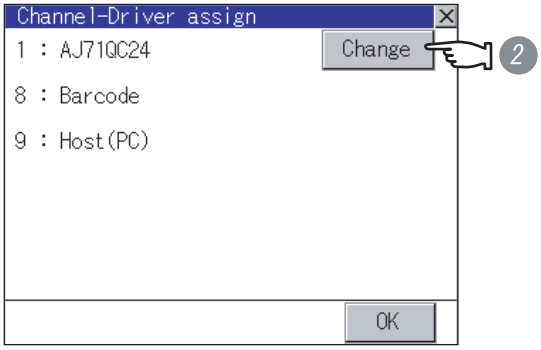
(1) Restarting the GOT
After Communication Setting is executed, the GOT automatically restarts.
If the project data is downloaded, GOT starts monitoring the communication device after restarting.
Before starting the operation, check for safe conditions.

(2) When [Communication Settings] has been downloaded from GT Designer2
When [Communication Settings] has been downloaded from GT Designer2 before changing the connected device, [Channel-Driver assign] operation with the utility is not needed.

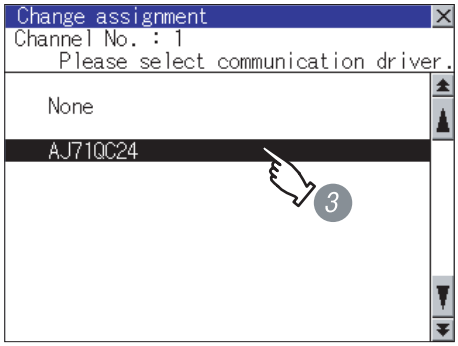
(3) Setting retention
Once being established, [Channel-Driver assign] is retained until [Communication Settings] is updated.



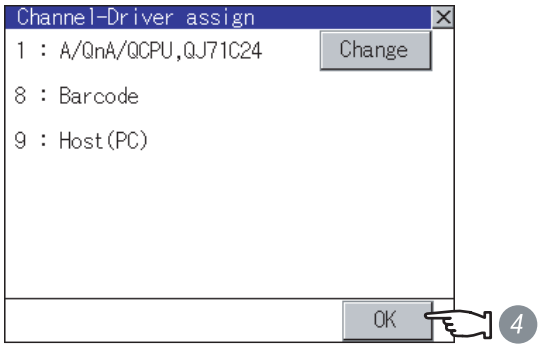
1 Install communication driver [A/QnA/QCPU, QJ71C24] to the GOT [Communication Settings] with AJ71QC24.
([Communication Settings] is not downloaded from GT Designer2.)
After installing the communication driver, touch the CH-Driver assign button in [Communication Settings].



2 The screen shown on the left is displayed.
Touch the Change button.

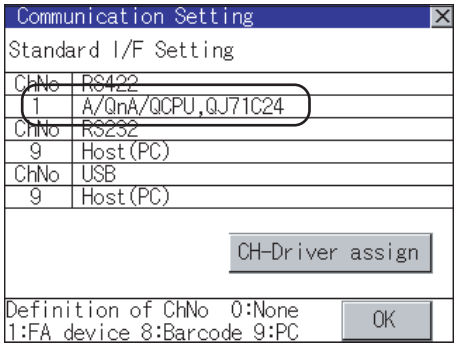


3 Touch the communication driver installed to the GOT ([A/QnA/QCPU, QJ71C24]).



4 The [Channel-Driver assign] screen is displayed again.
Touch the [OK] button.

5 Touch the ☒ button to return to the [Communication Settings] screen.



6 Check that the selected communication driver ([A/QnA/QCPU, QJ71C24]) is assigned.

7 After checking, touch the [OK] button.

8 Touch the ☒ button. The GOT restarts.

Point

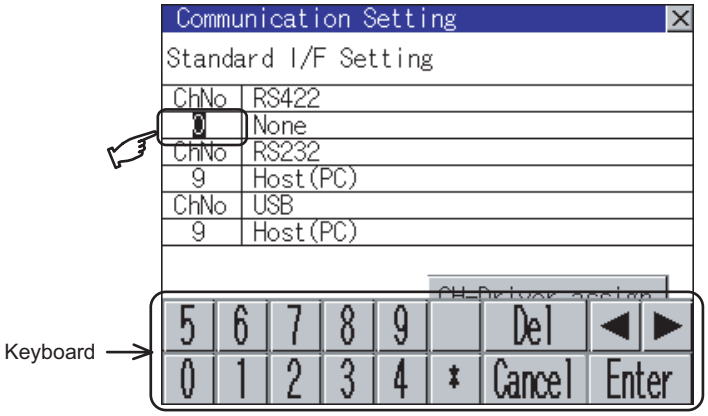
Communication driver

(1) Multi-channel function
GT11 can install up to 4 communication drivers.
However, multiple communication drivers cannot be used at the same time.
(Multi-channel function cannot be used.)

(2) Display of communication driver
Communication drivers are displayed in the order of installation.
To change the assigned communication driver to one that is not listed, change the [Communication Settings] of GT Designer2 and download to the GOT.

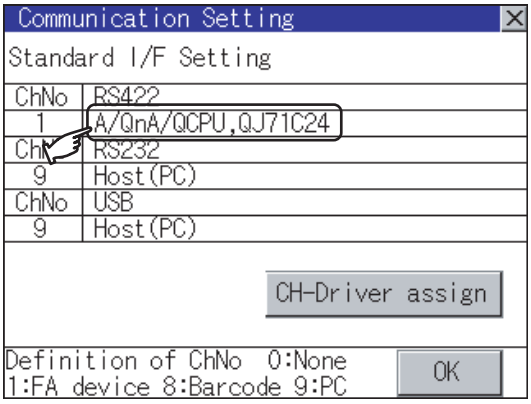
3 Channel number setting operation

1 Touch channel number specification menu BOX to be set.



2 The cursor for the channel number specification menu BOX is displayed.
Simultaneously the keyboard for a numerical input is displayed.

3 Enter the channel number from the keyboard and touch the [Enter] key to settle the entered value.
Setting the channel number to "1" displays the name of the communication driver for which CH No.1 is assigned with GT Designer2 in the driver display box.



4 Communication detail settings switching operation

1 If you touch the driver display BOX, the screen switches to the [Detailed setting] screen of the related communication device.
(☞ Section 10.2 Communication Detail Settings)

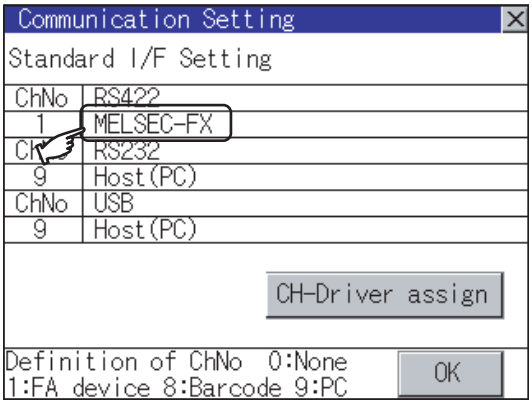
10.2 Communication Detail Settings

10.2.1 Communication detail settings functions

Function	Contents
Communication parameters setting	Set various communication parameters of communication devices. The settable parameters differ according to the communication device.
Keyword Register	For the FX series PLCs, key word for protecting program in the PLC can be set.
Keyword Delete	For the FX series PLCs, key word for protecting program in the PLC can be deleted.
Keyword Clear	For the FX series PLCs, the program protection status in the PLC can be cancelled.
Keyword Protect	For the FX series PLCs, the cancelled program protection in the PLC can be reactivated.

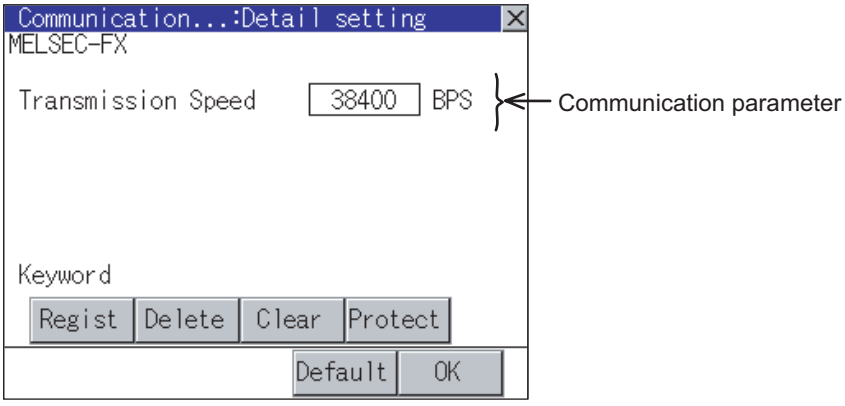
10.2.2 Communication detail settings display operation

1 Touch the driver display BOX of the communication parameter to be set in the [Communication setting] screen.



2 The screen switches to the [Communication Detail setting] screen.
Set communication parameters from this screen.
Refer to the following for the setting change operation.

☞ Section 9.3.3 Basic operation of settings change



Point

Communication parameter setting using GT Designer2

(1) Select [System Environment] → [Communication Settings] from GT Designer2 to enter the communication parameters for each communication driver.
To change the communication parameter setting after downloading project data, change the setting at [Communication Detail Setting] (described in this section).
For [Communication Settings] using GT Designer 2, refer to the following manual.

☞GT Designer 2 Version□ Screen Design Manual
Section 3.7 Communication Interface Setting (Communication Settings)

10.2.3 Display contents of communication detail settings

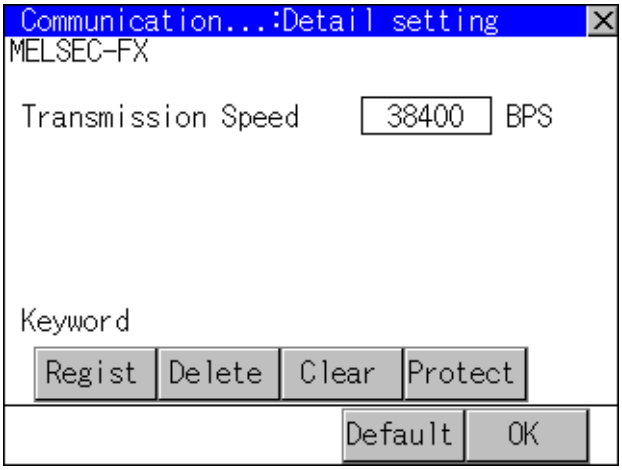
Display items or setting items of communication detail settings depend on the type of communication driver installed in the GOT.
For the setting contents of each driver, refer to the following.

☞GT Designer2 Version □ Screen Design Manual (Section 3.7 Communication Interface Setting (Communication Settings)

This section describes the items that can be set using only the utility screen.

Keyword settings of MELSEC-FX
On the communication detail setting screen of MELSEC-FX, registration, deletion, cancellation, or protection of the keyword for FX series PLC can be executed.

MELSEC FX



1 Regist

Keyword is registered.

1 Touching the [Regist] key pops up a keyboard for keyword input.

2 When the keyword is input and the [Enter] key is touched, registration is completed.
For the keyword, 8 digits from 0 to 9 or A to F must be set.

Target PLC	Settings	
	When keyword and 2nd keyword are registered	When only keyword is registered
FX PLC compatible with 2nd keyword	Registration options can be selected.	Registration options*1 cannot be selected.
FX PLC not compatible with 2nd keyword	-	

*1: Registration options
Options can be selected among "Read/Write Protect", "Write Protect", or "All Protect".
For access restrictions of each setting, refer to the manual of the PLC to be used.

Point

(1) Selection of keyword protection level

For the devices which can perform the online operation of FX PLC, 3 levels of protection can be set.

When the monitoring or setting change by online devices is needed, set the keyword taking the following into consideration.

(a) When only keyword is registered

Protection level is selected by the head character of keyword.

All operation prohibition: Set the keyword starting with one of A, D to F, or 0 to 9.

Burglar prevention: Set the keyword starting with B.

Erroneous write prohibition: Set the keyword starting with C.

(b) When keyword and 2nd keyword are registered

Protection level is selected by "Registration options".

(2) Applicability of monitoring for each keyword protection level

The applicability of monitoring for each protection level is as follows.

Setting items		When only keyword is registered			When keyword and 2nd keyword are registered			Keyword unregistered/ protection cancelled
		All operation prohibition	Burglar prevention	Erroneous write prohibition	All Protect	Read/ Write prohibition	Write Protect	
Device monitoring		○	○	○	×	○	○	○
Device change	T, C setting values and file register (from D1000)	×	×	×	×	○	○	○
	Other than the above	○	○	○	×	○	○	○

(3) Difference between "All Protect" and "All operation prohibition"

When "All Protect" is selected, both device display and input by the programming tool or GOT are prohibited.

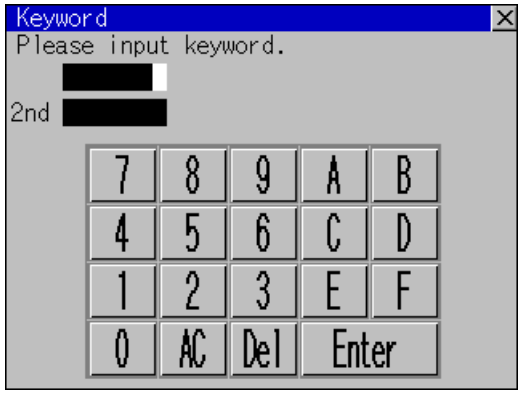
When "All operation prohibition" is selected, device display and input are possible although operations by the programming tool are all prohibited.

2 Delete

Registered keyword is deleted.

1 Touching the [Delete] key pops up a keyboard for keyword input.

2 When the correct keyword is input and the [Enter] key is touched, the keyword is deleted.

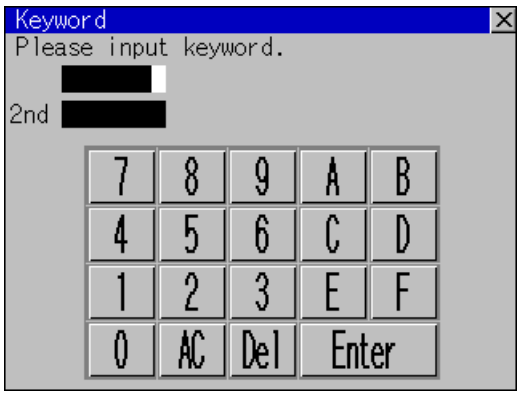


Target PLC	Settings
FX PLC compatible with 2nd keyword	Input a keyword to be deleted.
FX PLC not compatible with 2nd keyword	Input a keyword to be deleted only into "keyword". "2nd keyword" is ignored.

3 Clear

To access an FX PLC where a keyword has been registered, keyword protection is cancelled.

1. Touching the [Clear] key pops up a keyboard for keyword input.
2. When the correct keyword is input and the [Enter] key is touched, the protection is cancelled.



Target PLC	Settings
FX PLC compatible with 2nd keyword	Input a keyword to cancel the protection.
FX PLC not compatible with 2nd keyword	Input a keyword into "keyword" to cancel the protection. "2nd keyword" is ignored.

4 Protect

A keyword with cancelled protection is reactivated for protection.

1. Touching the [Protect] key activates keyword protection.

11. DISPLAY AND OPERATION SETTINGS (GOT SET UP)

Setting screen for display and setting screen for operation can be displayed from GOT setup.
In the setting screen for display and the setting screen for operation, the following settings can be set.

Screen	Description	Reference page
Setting screen for display	Opening screen time, screen save time, screen save backlight, language	11-1
	Brightness, contrast	11-6
Setting screen for operation	Buzzer volume, window move buzzer	11-10
	Security setting	11-12
	Utility call key	11-14

11.1 Display Settings

11.1.1 Display setting functions

Setting regarding display is possible.
The items which can be set are shown below.

Items	Contents	Setting range
Opening screen time	The title display period at the main unit boot can be set.	0 to 60 seconds * <At factory shipment: 5 seconds >
Screen save time	The period from the user stops the touch panel operation till the screen save function starts can be set.	0 to 60 minutes <At factory shipment: 0 minutes> When set to 0, the function becomes invalid.
Screen save backlight	Whether turn ON or OFF the backlight simultaneously at the screen save function start can be specified.	ON/OFF <At factory shipment: OFF>
Language	Confirmation of the current language and switching language can be performed regarding with the language displayed by utility and dialogue.	Japanese/English <At factory shipment: Japanese>
Brightness, Contrast	The brightness or contrast can be adjusted. ☞ Section 11.2 Brightness, Contrast Adjustment	—

*: If setting 0, the title screen is not hidden.
The title screen is always displayed for 4 seconds or longer (which changes depending on the project data contents).

Point

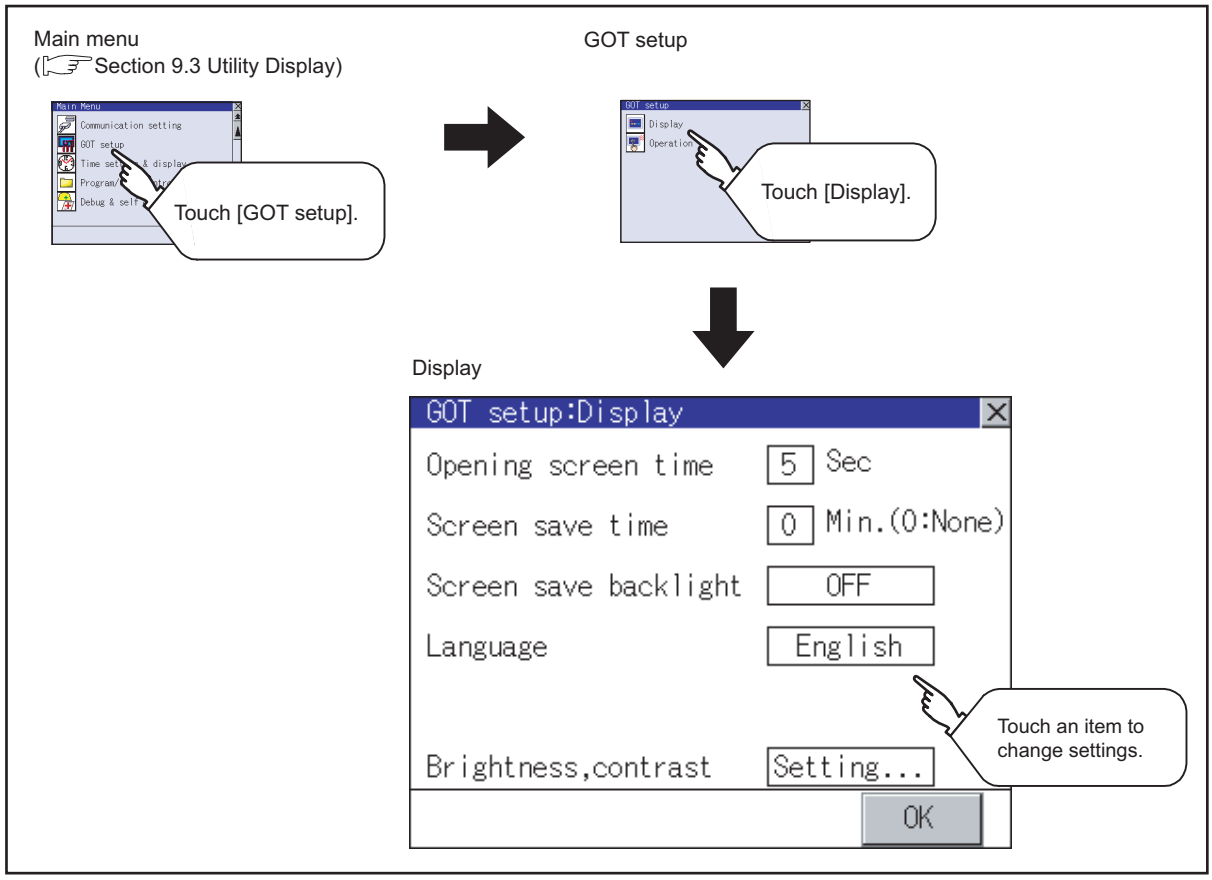
(1) Display setting by GT Designer2
Set title display period, screen save time and screen save backlight at [GOT set up] in [System Environment] of GT Designer2.
When change a part of the setting after downloading the project data, change the setting by [Display] screen of the GOT.

☞ GT Designer2 Version □ Screen Design Manual
(Section 3.8 Setting of the GOT display and operation (GOT setup))

(2) Screen save and screen save backlight OFF function
When using the screen save and screen save back light OFF function, select valid/invalid by the system information reading device in [System Environment] of GT Designer2.
For system information details, refer the following.

☞ GT Designer2 Version □ Screen Design Manual
(Section 3.6 Setting System Information)

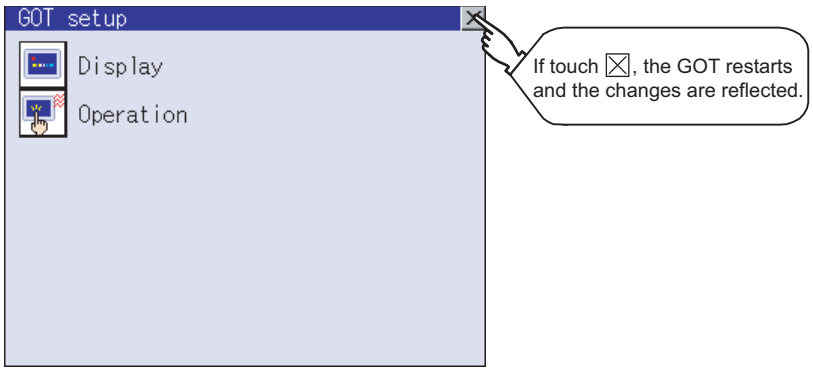
11.1.2 Display operation of display setting



Point

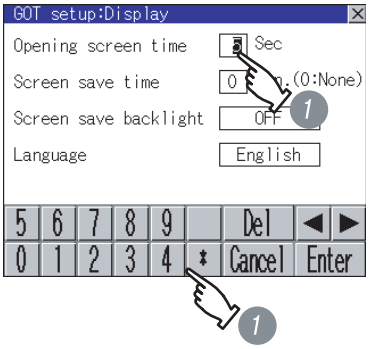
Restart after setting change

If return the display to the GOT setup screen by touching the ☒ button after the setting of each item is changed and touch the ☒ button on the GOT setup screen, the GOT will restart.
After GOT restarts, it is displayed with the changed settings.
If restarted the GOT by powering OFF the GOT without the procedure above, the setting contents are canceled without reflected.

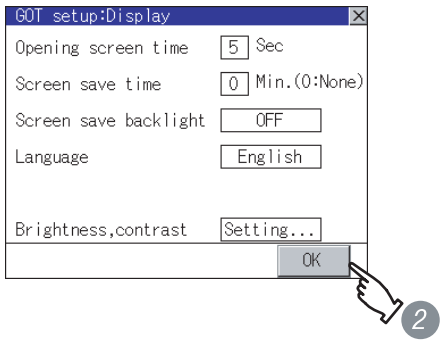


11.1.3 Display setting operations

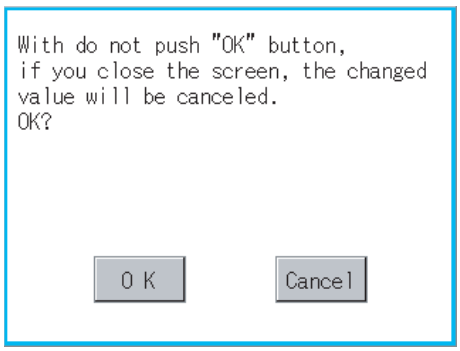
1 Opening screen, screen save time



1 If touching the setting time (numerical), keyboard is displayed. Input numeric with the keyboard.



2 Setting contents are defined if [OK] button is touched.



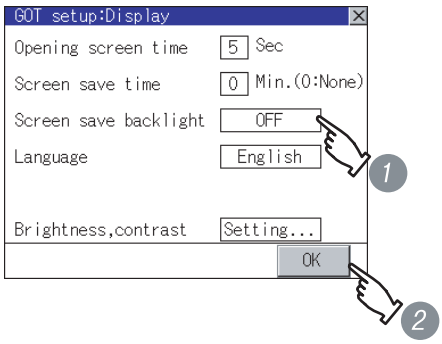
3 If [☒] button is touched without touching [OK] button, the dialogue box shown on the left is displayed.

[OK] button: The changed value is canceled, and the screen is closed.

[Cancel] button: The display setting screen is displayed.

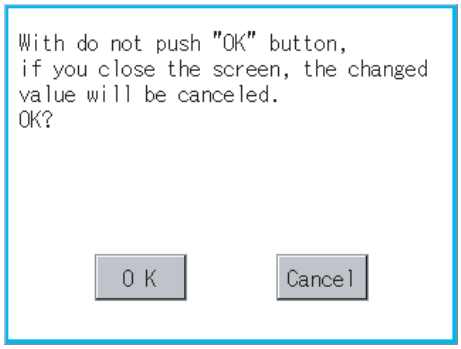
4 If close the display setting and GOT setup screens after completing the setting of all items to change with [☒] button, GOT restarts and reflects the setting contents.

2 Screen save backlight



1 Setting item is changed if setting item is touched. (ON ⇄ OFF)

2 Setting contents are defined if [OK] button is touched



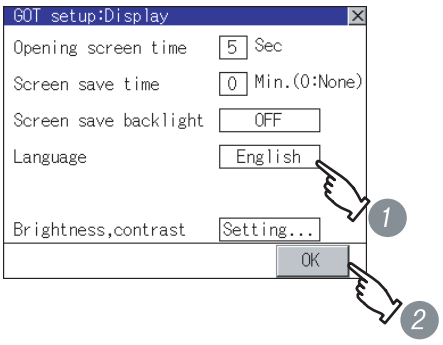
3 If [☒] button is touched without touching [OK] button, the dialogue mentioned left is displayed.

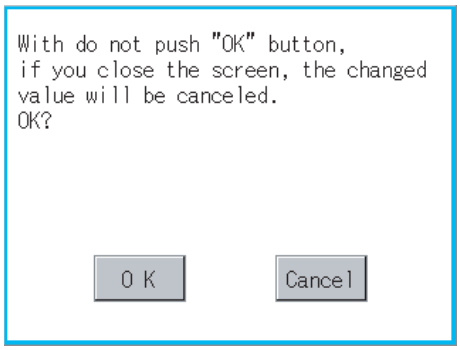
[OK] button: The change contents are canceled, and the screen is closed.

[Cancel] button: The display setting screen is displayed.

4 If close the display setting and GOT setup screens after completing the setting of all items to change with [☒] button, GOT restarts and reflects the setting contents.

3 Language





1 Setting items are changed if setting item is touched. (English ⇄ Japanese)

2 Setting contents are defined if [OK] button is touched. The language display does not change till 4 is carried out.

3 If [☒] button is touched without touching [OK] button, the dialogue box shown on the left is displayed.

[OK] button: The changed value is canceled, and the screen is closed.

[Cancel] button: The display setting screen is displayed.

4 If close the display setting and GOT setup screens after completing the setting of all items to change with [☒] button, GOT restarts and reflects the setting contents.

4 Brightness, Contrast

Refer to the following for brightness, contrast setting.

☞ Section 11.2 Brightness, Contrast Adjustment

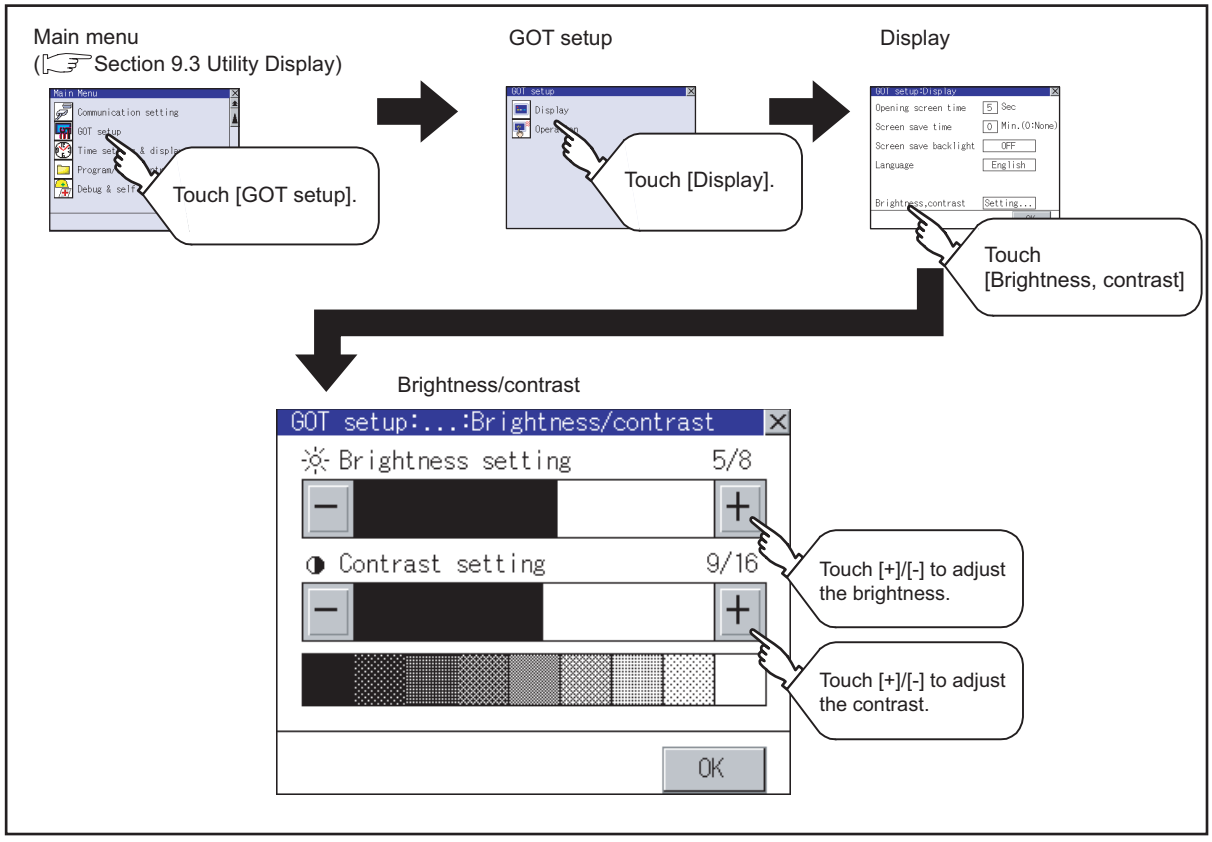
11.2 Brightness, Contrast Adjustment

11.2.1 Brightness, contrast adjustment function

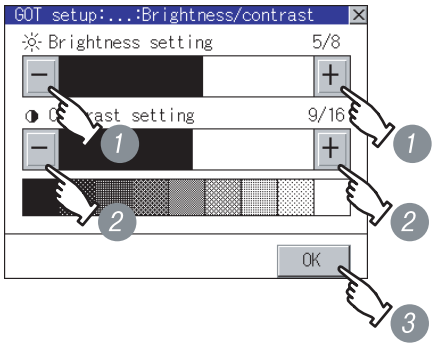
Brightness or contrast can be adjusted.

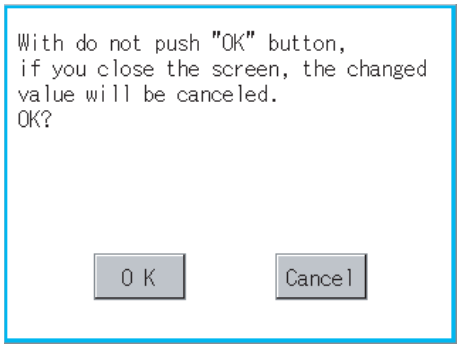
Function	Contents
Brightness setting	Brightness of display part can be adjusted by 8 levels.
Contrast setting	Contrast of display part can be adjusted by 16 levels.

11.2.2 Display operation of brightness, contrast



11.2.3 Brightness adjustment operation





1 Brightness can be adjusted by touching [+], [−] key of brightness adjustment.

2 Contrast can be adjusted by touching [+], [−] key of contrast adjustment.

3 Setting contents are defined if [OK] button is touched

4 If [OK] button is touched without touching [☒] button, the dialogue box shown on the left displayed.

[OK] button: The changed value is canceled, and the screen is closed.

[Cancel] button: The brightness/contrast adjustment screen is displayed.

5 If close the display setting and GOT setup screens after completing the setting of all items to change with [☒] button, GOT restarts and reflects the setting contents.

11.3 Operation Settings

11.3.1 Operation setting functions

Setting regarding GOT operation can be set.
The items which can be set are described below.

Function	Contents	Setting range
Buzzer volume setting	Buzzer volume setting can be changed.	OFF/SHORT/LONG <At factory shipment: SHORT>
Window move buzzer volume setting	Whether turn ON/OFF buzzer when move window can be selected.	ON/OFF <At factory shipment: ON>
Security setting screen change	Security level change screen can be displayed. ☞Section 11.4 Security Level Change	—
Utility call key screen change	Utility call key setting screen can be displayed. ☞Section 11.5 Utility Call Key Setting	—
Key sensitivity setting	The sensitivity of touch panel when GOT screen is touched can be set.	1 to 8 *1

*1 Relationship between the "key sensitivity" setting and the "key reaction speed"

Larger the setting value of the "key sensitivity" is, shorter time GOT takes to react after the touch panel is touched.
For example, when touching the GOT screen once causes a two-touch operation, set the key sensitivity to a smaller value. (It makes reaction speed slower.)
The following shows the relationship between the "key sensitivity" setting and the "key reaction speed".

"Key sensitivity" setting value	8	7	6	5	4	3	2	1
"Key reaction speed"	-20	-10	Standard(±0)	+30	+60	+120	+240	+480

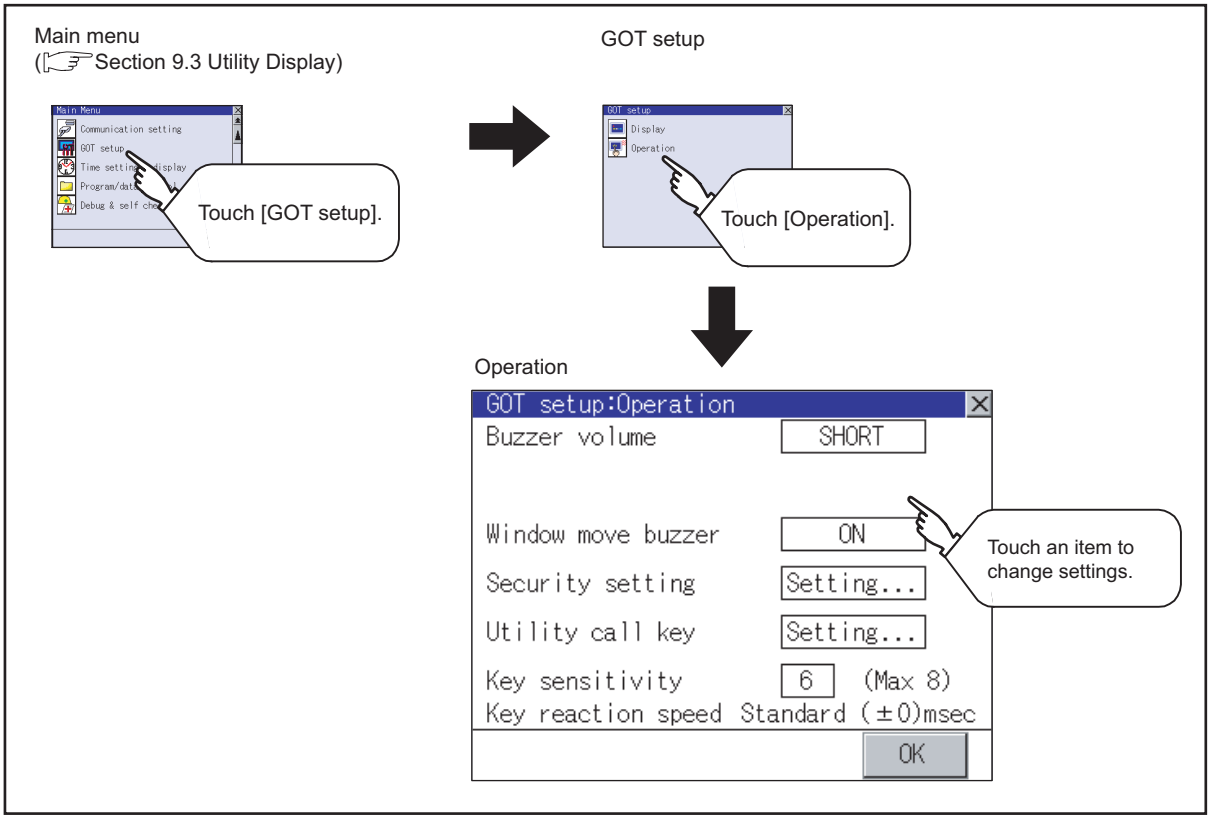
Point

Operation settings by GT Designer2

Set buzzer volume and window move buzzer volume by [GOT setup] in [System Environment] of GT Designer2.
When change a part of the setting, change the setting by the GOT display setting after downloading the project data.

☞GT Designer2 Version □ Screen Design Manual
(Section 3.8 Setting of the GOT display and operation (GOT setup))

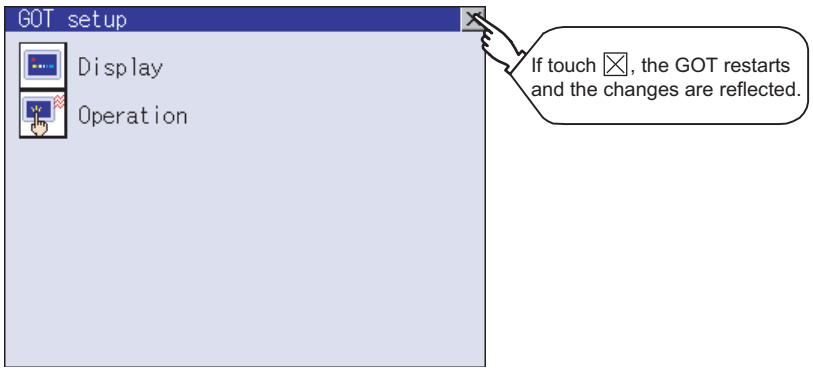
11.3.2 Display operation of operation setting



Point

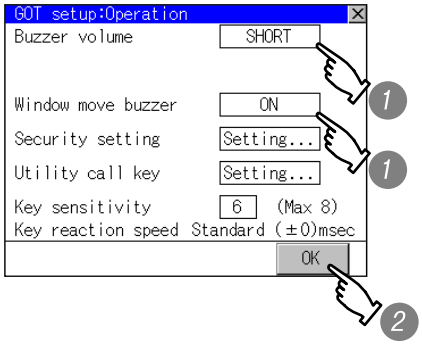
Restart after setting change

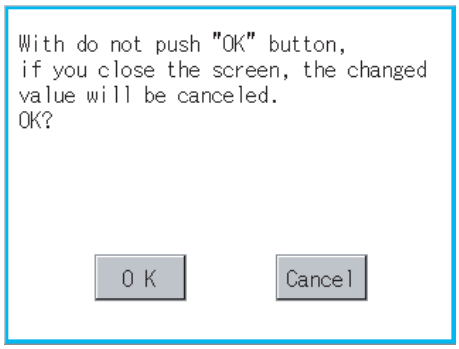
If return the display to the GOT setup screen by touching the ☒ button after the setting of each item (excluding the security setting) is changed and touch the ☒ button on the GOT setup screen, the GOT will restart.
After GOT restarts, it is displayed with the changed settings.
If restarted the GOT by powering OFF the GOT without the procedure above, the setting contents are canceled without reflected.



11.3.3 Setting operation of operation

1 Buzzer volume, window move buzzer





1 Setting items are changed if setting item is touched.

Buzzer volume : SHORT → LONG → OFF

Window move buzzer : OFF ⇄ ON

2 Setting contents are defined if [OK] button is touched.

3 If [OK] button is touched without touching ☒ button, the dialogue box shown on the left is displayed.

[OK] button: The changed value is canceled, and the screen is closed.

[Cancel] button: The operation setting screen is displayed.

4 If close the display setting and GOT setup screens with ☒ button after completing the setting of all items to change, GOT restarts and reflects the setting contents.

2 Security setting

Refer to the following for the security setting operation.

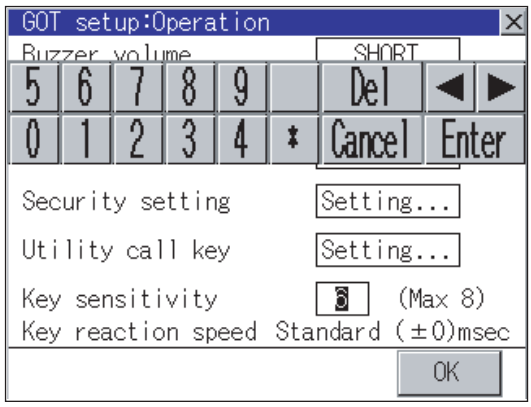
☞ Section 11.4 Security Level Change

3 Utility call key

Refer to the following for the utility call key operation.

☞ Section 11.5 Utility Call Key Setting

4 Key sensitivity setting



1. The keyboard is displayed if setting item is touched.
2. Enter the numerical value from the keyboard.
3. The key reaction speed according to the "key sensitivity" setting is displayed.
4. Setting contents are defined if OK button is touched.

11.4 Security Level Change

11.4.1 Security level change functions

Changes the security level to the same security level set by each object or screen switch.
To change the security level, input the password of the security level which is set in GT Designer2.

Security level setting ..... ☞ GT Designer2 Version ☐ Screen Design Manual (Section 5.8 Security function)

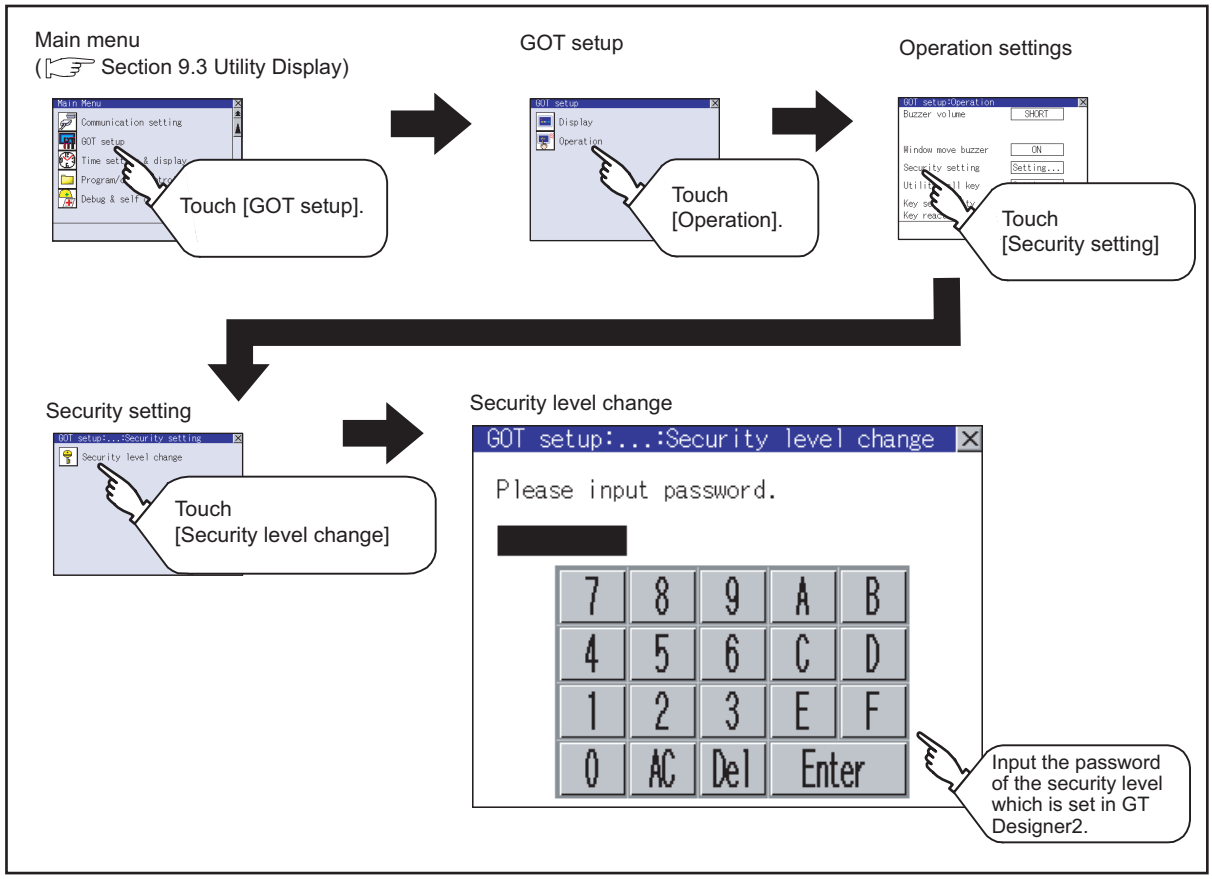
Password setting..... ☞ GT Designer2 Version ☐ Screen Design Manual (Section 3.5 Set Password)

Point

Restrictions on screen display

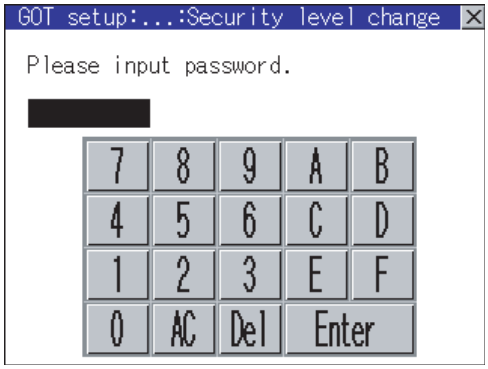
The security level change screen cannot be displayed when project data do not exist in GOT. Change the security level after downloading the project data to GOT

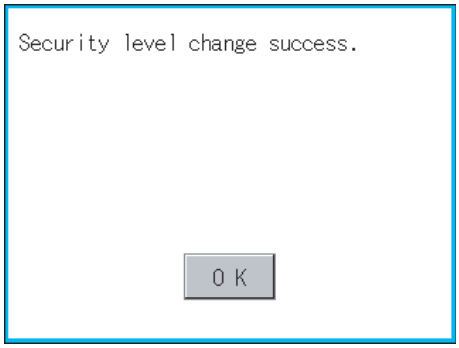
11.4.2 Security change display operation

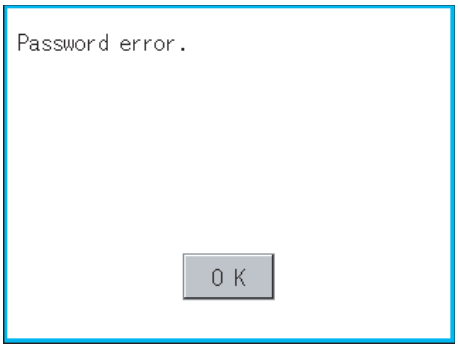


11.4.3 Security level change operation

1 Password input operation







1 By touching [0] to [9], [A] to [F] key, the password of the changed security level is input.

2 When correcting the input character, touch [Del] key to delete the correcting character and input the password again.

3 After inputting password, touch the [Enter] key.
When the password matches, a message notifying successful change of the security level is displayed.
When the password does not match, an error message is displayed.

4 If [OK] button is touched it returns to the password input screen again.

5 If [☒] button is touched it returns to security setting screen.

Remark About forgetting to return to the original level after changing security level temporarily

When use GOT after temporarily changing the security level, do not forget to return the security level to the original level.

11.5 Utility Call Key Setting

11.5.1 Utility call key setting function

The key position for calling the main menu of the utility can be specified.
The key position can be specified by one point or two points of 4 corners on the screen.
When the key position is specified by one point, the time to switch to the utility when the key position is kept pressing can be set.
For default setting, the upper left and upper right corners are specified.

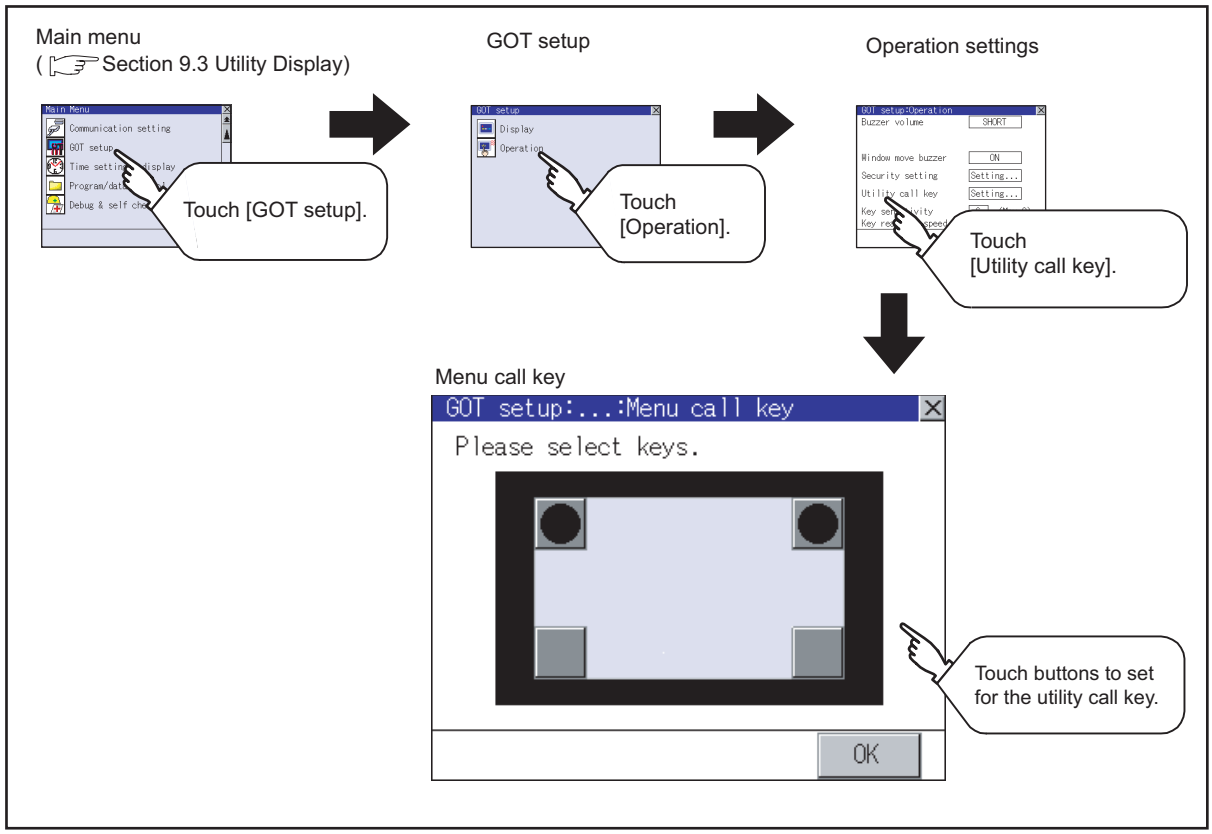
Point

Operation settings by GT Designer2

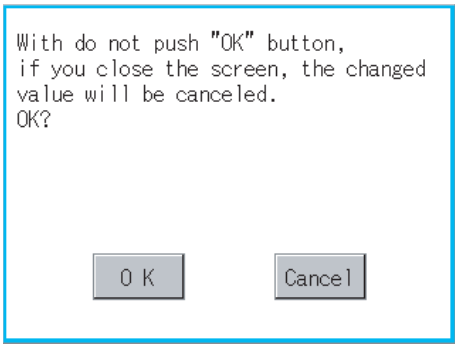
Set the utility call key at [GOT set up] in [System Environment] of GT Designer2.
When change a part of the setting after downloading the project data, change the setting by [Display] screen of the GOT.

☞ GT Designer2 Version □ Screen Design Manual
(Section 3.8 Setting of the GOT display and operation (GOT setup))

11.5.2 Utility call key display operation



11.5.3 Utility call key setting operation



1 Touch ● or □ displayed on the four corners of the setting screen.
The button repeats ● ⇄ □ every time it is pressed.
Change the part to be set as a key position to ●.

2 When the key position is specified by one point, the time to switch to the utility when the key position is kept pressing can be set.
Touch the time area.

3 The keyboard is displayed if the input area is touched.
Input a setting time from the keyboard.

4 Setting contents are defined by touching OK button.

5 If ☒ button is touched without touching OK button, the dialogue box shown on the left is displayed.

OK button: The changed value is canceled, and the screen is closed.

Cancel button: The utility call key setting screen is displayed.

6 After finishing all the settings for items to be changed on the operation screen, closing "Operation" and "GOT setup" screens with ☒ button restarts GOT and reflects the setting contents.

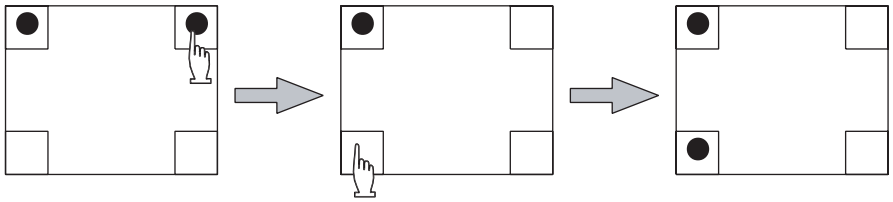
Point

Setting another key position when there are two ●

Make the setting after changing either one of the key positions from ● to □.

Three of ● cannot be set at the same time.

Example: When changing the two positions from the upper left and upper right corners to the upper left and lower left corners



Change the upper right ● to □.

Change the lower left □ to ●.

12. CLOCK SETTINGS AND BATTERY STATUS DISPLAY (TIME SETTING AND DISPLAY)

The clock display setting items and the time when displayed the setting screen are displayed.
The voltage status of the built-in battery is also displayed.

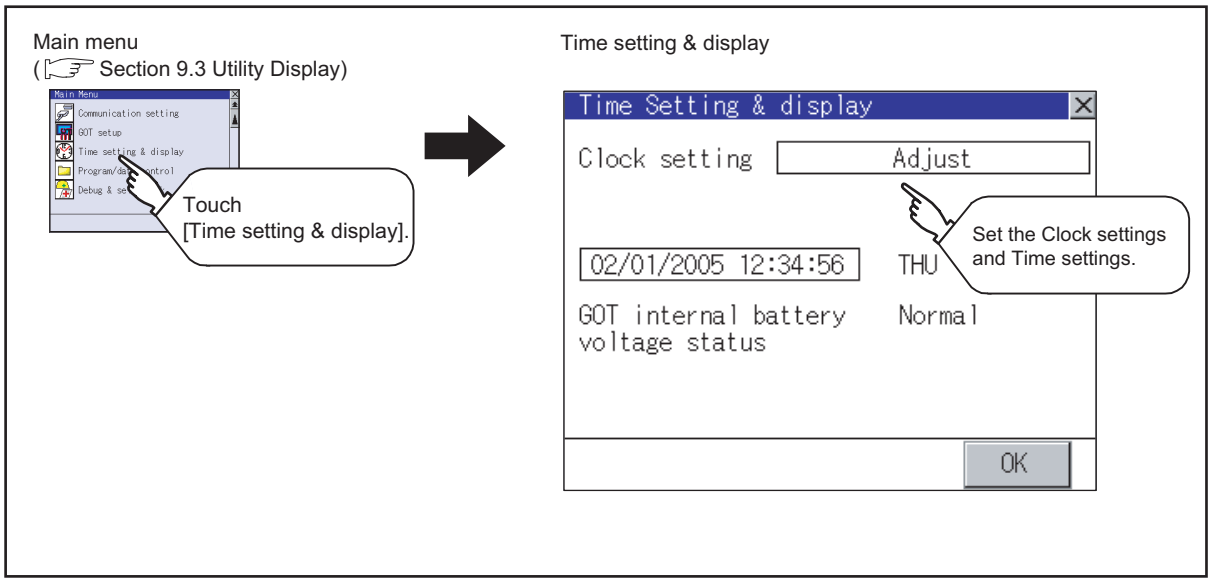
12.1 Time Setting and Display

12.1.1 Time setting and display functions

Time settings and displaying of the status of GOT built-in battery are possible.

Function	Contents	Reference page
Clock setting	Setup the method to adjust the time between GOT clock data and clock data of PLC CPU connected with GOT.	12-2
Clock display	Carry out the display and setup of GOT clock data.	12-4
GOT internal battery voltage status	Displays GOT internal battery voltage status.	12-5

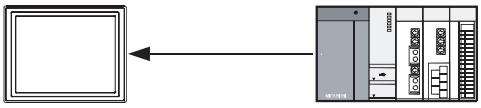
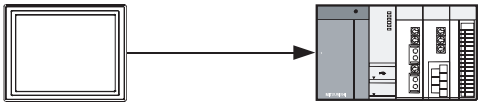
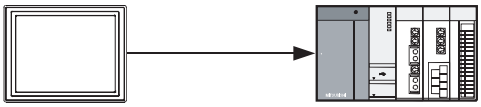
12.1.2 Display operation of clock display and setting

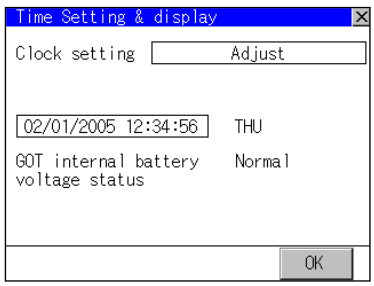


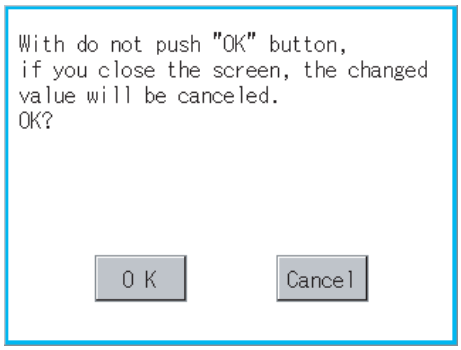
12.1.3 Clock setting operations

1 Clock setting

Setup the method to adjust the time between GOT data and the clock data of PLC CPU connected with GOT.

Setting	Contents
Adjust	Adjust the time of GOT clock data to the clock data of PLC CPU.  Same as setting in [GOT setup] in [System Environment] of GT Designer2. ☞ GT Designer2 Version Screen Design Manual (Section 2.5 Clock Function)
Broadcast	Adjust the time of PLC CPU clock data to the clock data of GOT.  Same as setting in [GOT setup] in [System Environment] of GT Designer2. ☞ GT Designer2 Version Screen Design Manual (Section 2.5 Clock Function)
Adjust/Broadcast	Adjust and Broadcast can be used appropriately.  Same as setting in [GOT setup] in [System Environment] of GT Designer2. ☞ GT Designer2 Version ☐ Screen Design Manual (Section 2.5 Clock Function)
None	No adjustment of clock data.





1 If touch the setup item, the setup contents is changed.

(Adjust → Broadcast → Adjust/Broadcast → None)

2 If touch [OK] button, the setup contents is reflected.

3 If touch ☒ button without touching [OK] button, the dialogue box shown on the left is displayed.

[OK] button: The changed value is canceled, and the screen is closed.

[Cancel] button: The time display and setting screen is displayed.

4 If touch ☒ button, GOT restarts. After restart, GOT operates with the changed settings.

Point

(1) When connecting with an external device which does not have clock function.
If set to [Adjust] or [Broadcast] for [Clock setting] while the GOT is connected with external devices (PLC or microcomputers) which do not have clock function, the clock data will not be adjusted.
Refer to the following for the list of PLC installed with clock function.

☞ GT Designer2 Version Screen Design Manual
(Section 2.4.3 PLC CPUs with clock function)

(2) Clock setting and battery
If [Broadcast] or [None] is selected for [Clock setting], the battery status of the GOT is required to be normal.

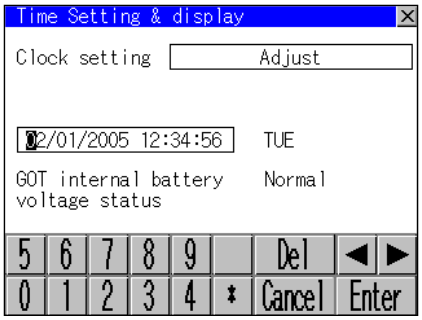
Refer to 3 "GOT internal battery voltage status" to check the battery status.

(3) Operation setting by GT Designer2
Carry out the setting of clock setting in [GOT set up] in [System Environment] of GT Designer2.
To change a part of the setting after downloading the project data, change the setting at the display setting of GOT.

☞ GT Designer2 Version☐ Screen Design Manual
(Section 3.8 Setting of the GOT display and operation (GOT setup))

2 Clock display

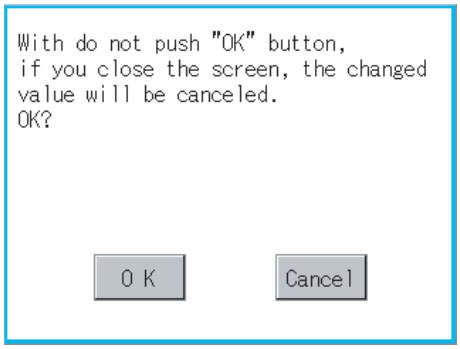
Carry out the display and seting of GOT clock data.
The setup methods of clock data are shown below.



1 If touch the clock display section, the keyboard for input is displayed and the clock update stops.

2 Input time with the keyboard by referring to the table below. Input the scheduled time when the operation of 3 is to be carried out since the input time is reflected at the time of the operation of 3.
The day of the week is displayed automatically according to the input date.

Key	Contents
0 to 9 Key	Input numeric value in cursor position.
← / → Key	Move the cursor.
Del Key	Move the cursor to the left by one character when Del Key is touched while inputting year, month, day, time, minutes, seconds. Carry out nothing when touched other than when inputting the above.
Enter Key	Close the keyboard after the input time is displayed in clock display. The update of the clock display does not restart even if the keyboard is closed. The update of the clock display restarts with the operation of 3.
Cancel Key	Cancel the input time and returns the time of clock display to the time at which the keyboard was displayed and close the keyboard. The update of the clock display does not restart even if the keyboard is closed. The update of the clock display restarts with the operation of 3.



3 Touching the OK button reflects the settings and restarts updating the clock display.
If [Broadcast] is selected for [Clock setting], the change is reflected to both of the GOT and external device clock data.

4 If touch ☒ button, the GOT restarts if the clock settings is changed, or the screen closes if clock settings is not changed.
If touch ☒ button without touching OK button, the dialogue box shown on the left is displayed.

OK button: The changed value is canceled, and the screen is closed.

Cancel button: The time display and setting screen is displayed.

3 GOT internal battery voltage status

Displays battery voltage status.

Display	Status
Normal	Normal
Low/None	Low voltage

When the battery voltage is low, replace the battery immediately.
Refer to the following for battery replacement procedure.

☞ Section 8.4 Battery

13. FILE DISPLAY AND COPY (PROGRAM/DATA CONTROL)

The display of OS, project data or alarm data which is written in the GOT or CF card and the data transmission between GOT and CF card are possible.
The format of the CF card is also possible.

13.1 Data Storage Location

13.1.1 Drive name allocation

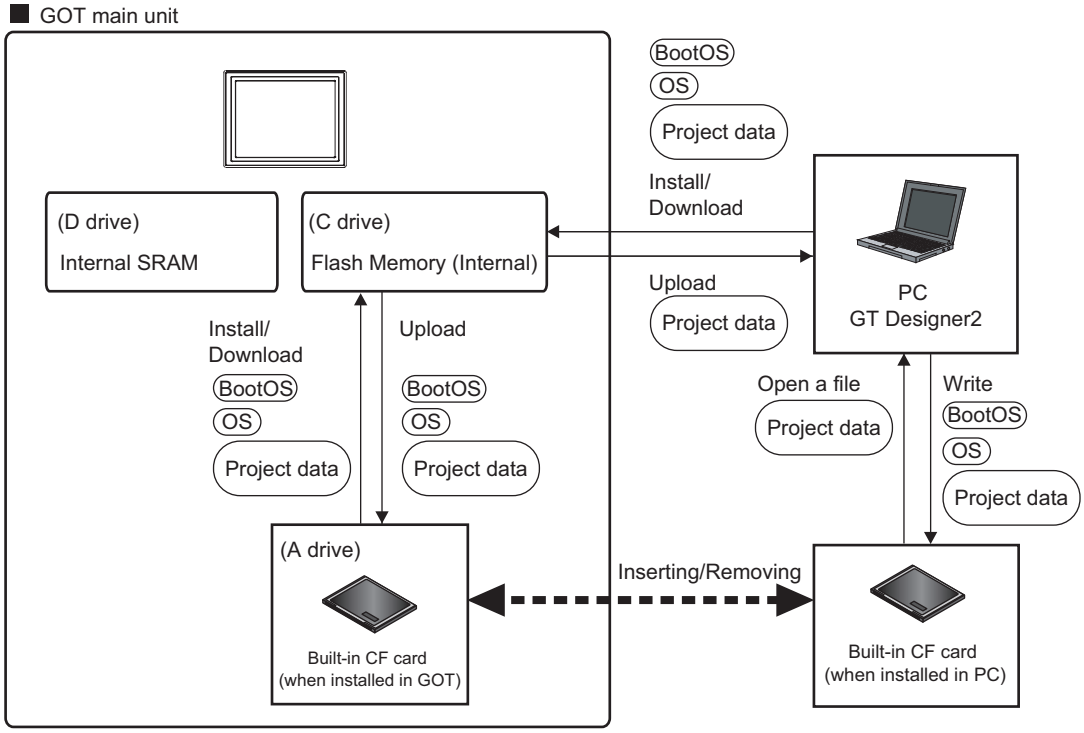
For the Built-in CF card, Flash Memory (Internal) or Internal SRAM, the following drive names (A drive, C drive and D drive) are allocated.

Drive name	Allocation
A drive	Built-in CF card
C drive	Flash Memory (Internal)
D drive	Internal SRAM

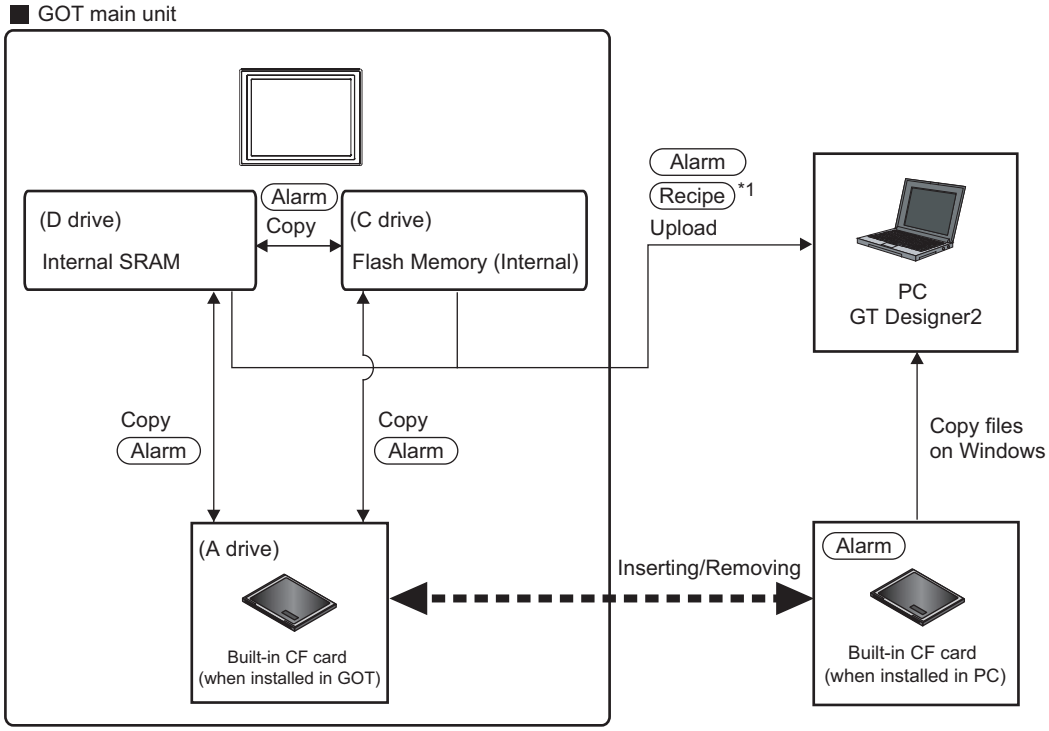
13.1.2 Data type and storage location

1 At system startup

The data storage location and transferring (write/read) route for each data type are shown below.



2 At maintenance



*1 The recipe data may not be transferred to the built-in CF card (A drive) or flash memory (C drive). While the data can be read with the resource data upload function of GT Designer2, the user may not use the read file.

The data of the Flash Memory (Project data, etc.) can be saved even if the battery voltage becomes low.

	Data type	Storage location
BootOS	BootOS	Flash Memory (C drive)
OS	Standard monitor OS	
	Communication driver	
	Extended function OS	
	Option OS	
Project data	Project data (Including recipe setting, alarm conditions, time action, and GOT setup.)	Flash Memory (C drive) *1
Alarm	Alarm data (Alarm log file)	Internal SRAM (D drive)
Recipe	Recipe data	

*1 The project data can be started only from the flash memory (C drive). It cannot be started from the built-in CF card (A drive).

Point Folder and file in memory card

Multiple folders and files will be created when OS or project data is transferred to the memory card.
Do not delete or edit these folders and files since the GOT uses them.
If the folders or files are deleted or edited, the GOT will not function normally.

13.1.3 OS version confirmation

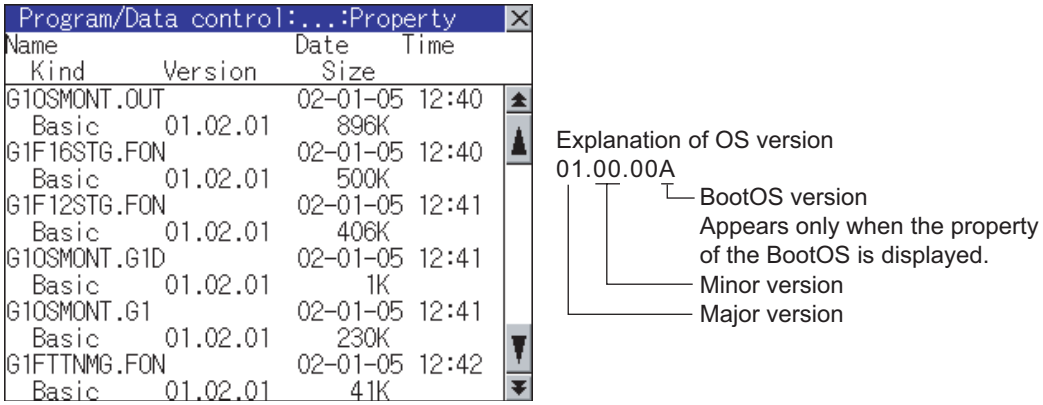
Confirm the OS version carefully when install BootOS and Standard monitor OS.
When OS is installed, GOT checks and compares the OS version automatically.

(1) When install BootOS
When the BootOS to be installed has the older major version, GOT displays the installation disapproving message to cancel the installtion so that the older version may not be written.
(Even when the version of the BootOS to be installed has the same or later version, the version information and the dialog for selecting continue/not continue will be displayed.)
When installing from the standard CF card, the dialog is displayed by the main unit.
When installing from GT Designer2 via USB or RS-232, the dialog is displayed by the GT Designer2.

(2) When install Standard monitor OS, communication driver, Option OS
When Standard monitor OS, communication driver, or Option OS has already been installed, the version information of the OS which has been installed and the dialog for selecting continue/not continue will be displayed.
Moreover, when the different versions will coexist amoung all OSs (Standard monitor OS, communication driver, and Option OS) by installing OS, the installation disapproving dialog will be displayed and the installation process is canceled.

(3) When download project data
GOT automatically compares the version between the project data to be downloaded and the installed OS.
When the versions are different, the dialog confirming whether to install the OS together is displayed.
When downloading the project data from the CF card, storing the project data and OS beforehand is recommended.

The version of each OS can be confirmed by [Property] of [OS information] screen.



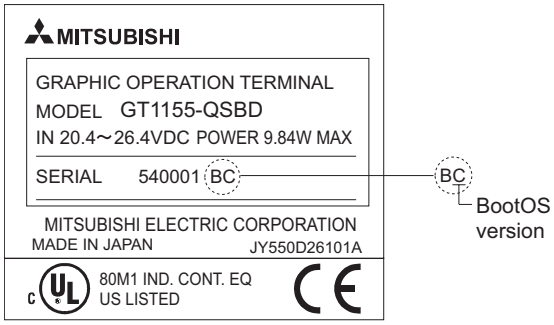
Refer to the following for details of the screen display operation.

☞ Section 13.2 OS Information

Point

Version confirmation of BootOS by rating plate

Confirm the version of BootOS installed in the GOT at product shipment by rating plate of GOT rear face.



13.1.4 Capacity confirmation of the project data downloading location

When download the project data, confirm the capacity of the user area in the drive to which transferred, the transferred project data size, the transfer size and buffering area size of the Option OS in advance to judge whether to carry out the download.
The capacities can be confirmed by GT Designer2.
Refer to the following for details.

☞GT Designer2 Version□ Basic Operation/Data Transfer Manual
(Section 8.1.2 Drive capacity required for data transfer)

13.1.5 Display file

The files that can be displayed in each screen are as follows.

Display screen	File name	Contents		Storage location (Drive name and folder name)
OS information screen	G1OSBTOS.OUT	BootOS	—	Flash Memory C:G1BOOT*1
	G1OSMONT.OUT	Standard monitor OS	Standard monitor OS	Flash Memory C:G1SYS*1
		6 × 8 dot font (ASCII character)		
		24-dot numerical HQ font		
		32-dot numerical HQ font		
	G1OSMONT.G1	System Screen Data		
	G1OSMONT.G1D	System Screen Information		
	G1FTTNMG.FON	TrueType Numerical Font		
	G1F12STG.FON	12-dot Standard Font (Gothic)		
	G1F16STM.FON	16-dot Standard Font (Mincho)		
	G1F16STG.FON	16-dot Standard Font (Gothic)		
	G1OSSYSM.OUT	System monitor	Extended function OS	
	G1OSSYSM.G1D	System monitor information		
	G1OSSYSM.G1	System monitor Data		
	G1OSBCD.OUT	Barcode		
	G1OSRECP.OUT	Recipe	Option OS	
	G1OSALST.OUT	List editor for MELSEC-A		
	G1OSALST.G1D	List editor for MELSEC-A information		
	G1OSALST.G1	List editor for MELSEC-A data		
	G1OSFLST.OUT	List editor for FX PLC		
	G1OSFLST.G1D	List editor for FX PLC information		
	G1OSFLST.GD	List editor for FX PLC data		
	G1CMC24.OUT	AJ71C24/UC24	Communication driver	
	G1CMQC24.OUT	AJ71QC24		
	G1CMAQDR.OUT	A/QnA/QCPU,QJ71C24,MELDAS C6*		
	G1CMFX.OUT	MELSEC-FX		
	G1CMMICR.OUT	Computer		
	G1CMSMC.OUT	OMRON SYSMAC		
	G1CMKEY.OUT	KEYENCE KV700/1000		
	G1CMYGL.OUT	YASKAWA GL		
	G1CMYGFA.OUT	YOKOGAWA FA500/FA-M3		
	G1CMRWSL.OUT	AB SLC500, AB 1:N		
	G1CMRWML.OUT	AB MicroLogix		
	G1CMSS7.OUT	SIEMENS S7-300/400		
	G1CMSS72.OUT	SIEMENS S7-200		
	G1CMCCG4.OUT	CC-Link (G4)		
	G1CMHDCH.OUT	HITACHI HIDIC H		
	G1CMHDC2.OUT	HITACHI HIDIC H (Protocol 2)		
	G1CMJW.OUT	SHARP JW		
	G1CMMWNT.OUT	MATSUSHITA MEWNET-FP		
	G1CMPSCT.OUT	TOSHIBA PROSEC T/V		
	G1CMNF0.OUT	OMRON THERMAC / INOANEL NEO		
	G1CMYTK.OUT	YAMATAKE SDC / DMC		
	G1CMRKC.OUT	RKC SR Mini HG		
	G1CMFQRL.OUT	FREQROL 500/700		
	G1CMMSV2.OUT	MELSERVO-J3, J2S/M		

Display screen	File name	Contents		Storage location (Drive name and folder name)
Project information screen	PROJECT.G1*2	Project data User screen data Comment data 12-dot HQ font (Mincho) 12-dot HQ font (Gothic) 16-dot HQ font (Mincho) 16-dot HQ font (Gothic) TrueType (Mincho) TrueType (Gothic)	Project data	Flash Memory C:PROJECT1*1*2
Alarm information screen	ALARMHST.CSV	Alarm log file CSV file	Resource Data	Internal SRAM D: The folder name can be specified voluntarily by GT Designer2. *1 The file name is fixed to "ALARMHST.CSV".

*1 Each folder is created automatically at installation, download and upload of each file.

*2 The folder name and file name can be set at [System Setting] in [System Environment] of GT Designer2.

☞ GT Designer2 Version ☐ Screen Design Manual
Section 3.1 GOT/PLC Type Setting

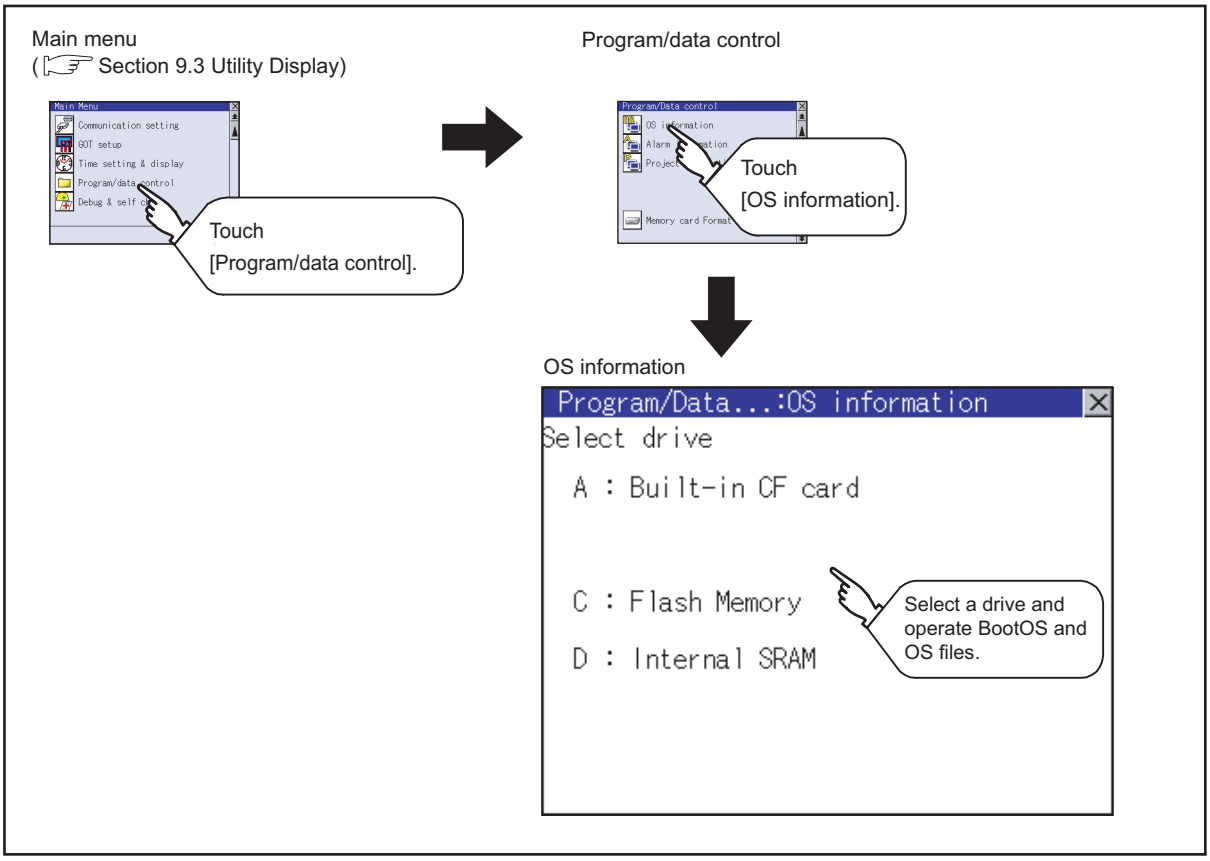
13.2 OS Information

13.2.1 Function of OS information

Each file name/folder name of BootOS and OS (Standard monitor OS, PC communication driver and Option OS) by which each drive (A: Built-in CF card, C: Flash memory) holds can be displayed in lists.
Installation and uploading of the files are also possible.

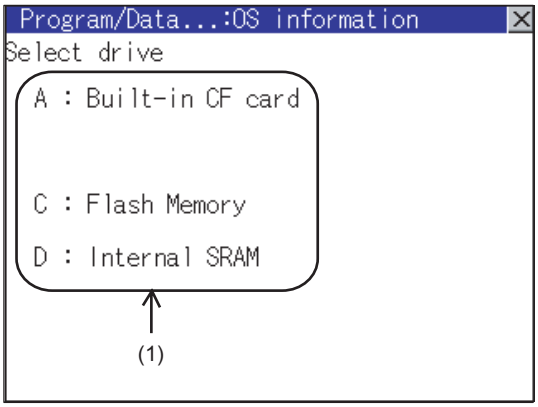
Function	Contents	Reference page
Information display of files and folders	Displays the kind, name, data size, creation date and time of the file or folder.	13-8, 13-9
Install	All files written in the A drive (Built-in CF card) can be installed in the C drive (Flash memory).	13-10
Upload	All files in the C drive (Flash memory) can be uploaded to the A drive (Built-in CF card).	13-11
Property display	Displays the property (file name, data size, type, version and creation date) of the file.	13-12
Data check	Data check of files is possible.	13-13

13.2.2 Display operation of OS information screen

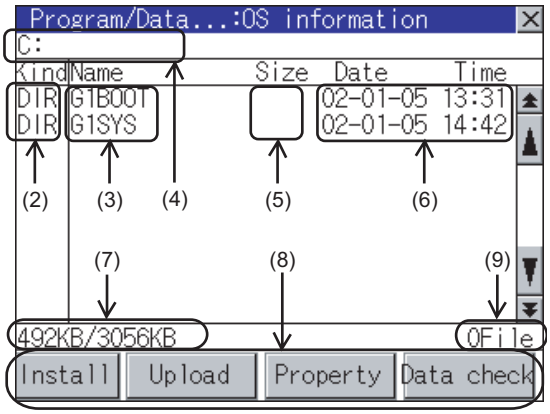


13.2.3 Display example of OS information

OS information screen



OS information screen: Storage file/folder display screen



Number	Item	Contents
(1)	Select drive	The drive of which file or folder is displayed can be selected. When the CF card is not installed, [A: Built-in CF card] will not be displayed.
(2)	Kind	Indicates whether the displayed name is for file or folder. In case of file, displays the extension; in case of folder, displays "DIR".
(3)	Name	The file name or folder name which is stored in the selected drive or folder is displayed. When the file name or folder name exceeds 20 characters, the exceeding characters (the 21th character or after) are not displayed.
(4)	Path name	The path name of the currently displayed drive/folder is displayed.
(5)	Size	Displays the size of the file displayed in Name.
(6)	Date and time	The date and time when each file was installed are displayed.
(7)	The size of drive	Displays the size in use and the entire size of the drive which is selected by drive selection.
(8)	Operation switch	Execution switch of each function (install, upload, etc.) which can be executed on the OS information screen.
(9)	Number of files	Displays the total number of the displayed files.

Remark Displayed folders and files

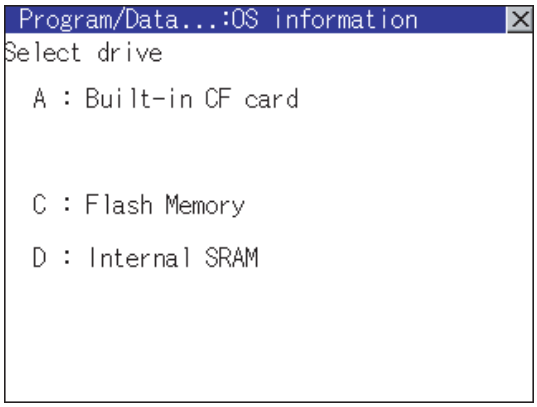
Refer to the following for the details of displayed folders and files.

☞ Section 13.1.5 Display file

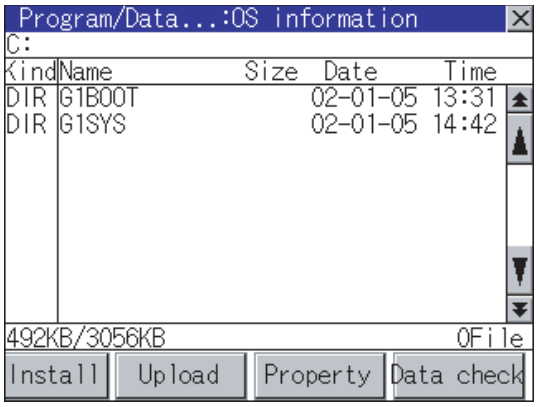
13.2.4 Operation of OS information

1 Display operation of OS information

OS information screen



OS information screen: Storage file/folder display screen

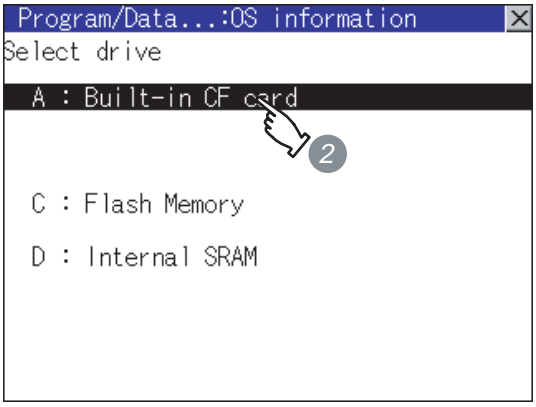


1. If touch a drive in [Select drive], the information of the first folder of the touched drive is displayed.
2. If touch a folder name, the information of the touched folder is displayed.
3. If touch a folder name of [. .], the information of the folder in one higher hierarchy is displayed.
4. If touch ▲▼ button of the scrollbar, the screen scrolls up/down by one line.
   If touch ⏫⏬ button, the screen scrolls up/down by one screen.
5. If touch a file name, the touched file name is selected and inverted.
6. Refer to the following for operation of installation, upload, property, data check.
   - Installation ..... ☞ this section 2
   - Upload ..... ☞ this section 3
   - Property ..... ☞ this section 4
   - Data check ..... ☞ this section 5
7. Touching ☒ button closes the screen.

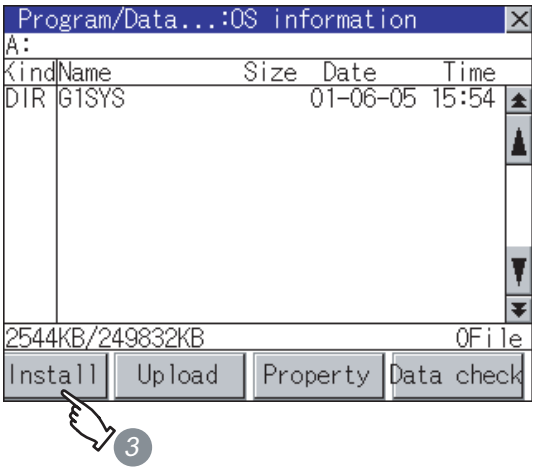
2 Installation operation

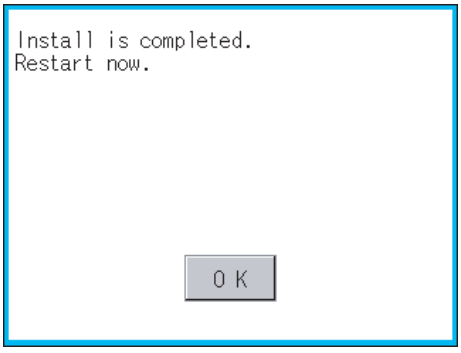
BootOS and OS which are written in the A drive (Built-in CF card) can be installed in GOT.

OS information screen



OS information screen: Storage file/folder display screen





1 Install the CF card to which the BootOS or OS to install is written to the GOT.
Refer to the following for inserting/removing method of CF card.
☞ Section 8.1 CF Card

2 Touch [A: Built-in CF Card] for drive selection.

3 Touching Install button starts the install.

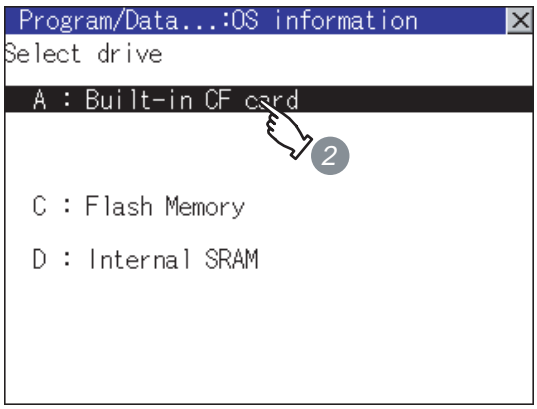
4 When the installation is completed, the dialog shown left is displayed.
GOT restarts if touch OK button.

3 Upload operation

BootOS and OS in the C drive (Flash memory) can be uploaded to the A drive (Built-in CF card).

1 Install the CF card used as the uploading destination to GOT. Refer to the following for inserting/removing method of CF card.
☞ Section 8.1 CF Card

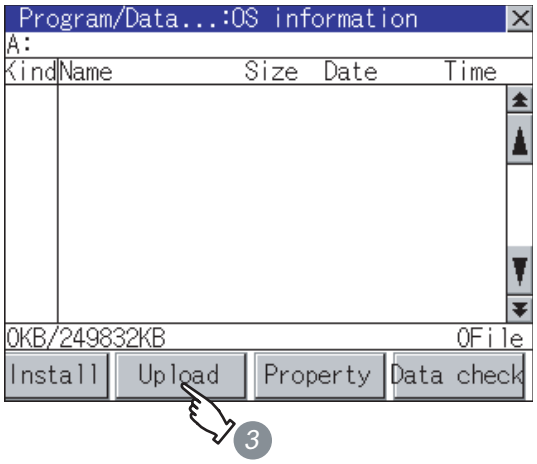
OS information screen

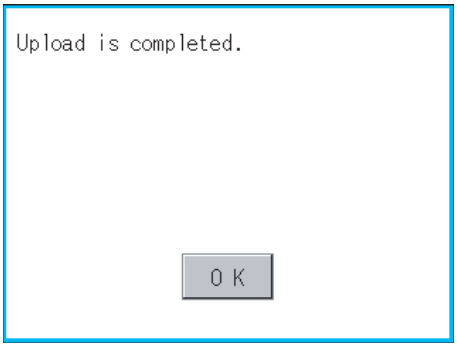


2 Touch [A: Built-in CF Card] of [Select drive].

3 Touching [Upload] starts the uploading.

OS information screen: Storage file/folder display screen

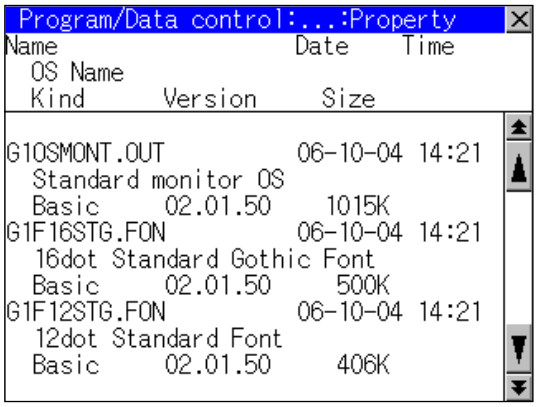




4 When the upload is completed, the dialog shown left is displayed.
Touching [OK] closes the dialog.

4 Property display operation

Displays the property of the file stored in the selected folder.



1 If touch [Property] button after selecting the property displaying target folder, the [Property] screen shown left is displayed. In the [Property] screen, the following information is displayed for each file selected by 1.

Item	Contents
Name	Displays the file name.
Kind	Displays the following items according to the file type. Boot : BootOS Standard : Standard monitor OS Communication : Communication driver Option : Option OS
Version	Displays the version of BootOS and OS.
Date, Time	Displays the date and time of the file creation.
Size	Displays the file size.

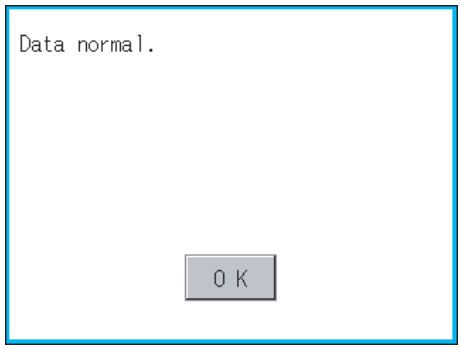
2 If touch [▲][▼] button of the scrollbar, the screen scrolls up/down by one line.
If touch [⏫][⏬] button, the screen scrolls up/down by one screen.

3 Touching [☒] button returns the screen to the previous screen display.

5 Data check operation

Carries out data check of the selected system file.

When data is normal.



When data is erroneous.

1. Touch [Data check] button after selecting a data check target file.
   The dialog mentioned left will be displayed after executing data check.
2. Touching [OK] button closes the dialog.
3. If the data check fails, the target file may be broken.

   Install the target file again.

   For details of installation, refer to the following.

   ☞ Chapter 16 INSTALLATION OF CoreOS, BOOTOS AND STANDARD MONITOR OS

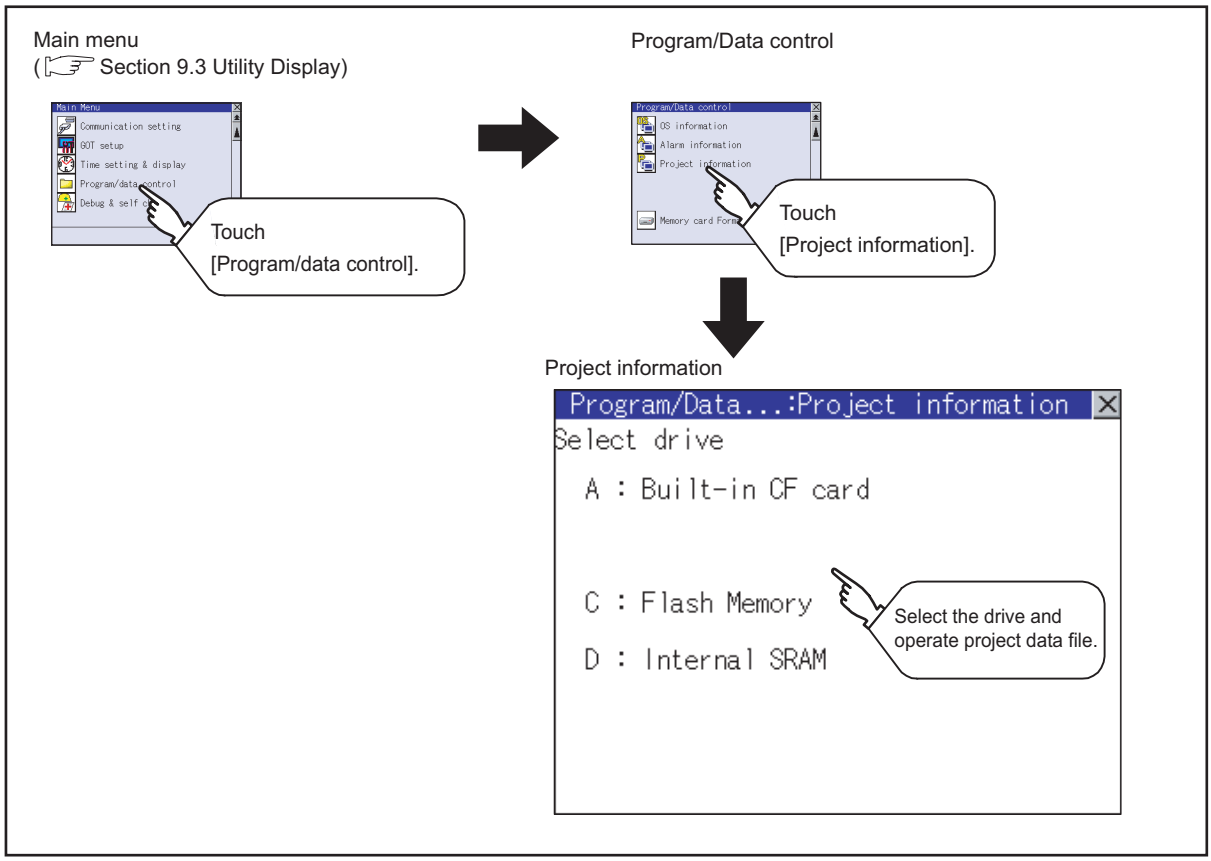
13.3 Project Information

13.3.1 Function of project information

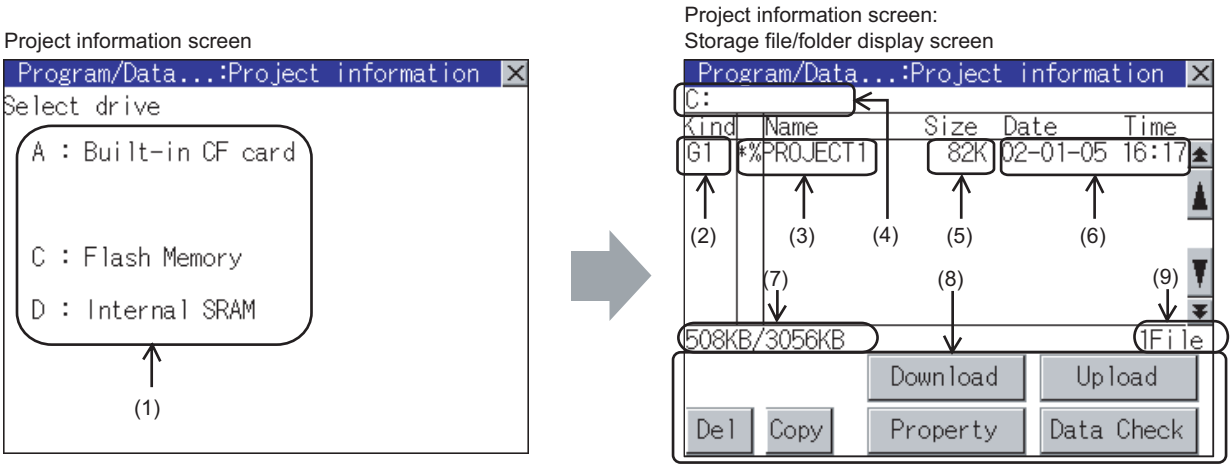
The project data files stored in each drive (A: Built-in CF card, C: Flash memory) can be displayed by lists. In addition, the files can be downloaded, uploaded, deleted or copied, etc.

Function	Contents	Reference page
Information display of files and folders	Displays the kind, name, data size, the creation date and time of the file or folder.	13-15, 13-16
Delete	Deletes project data.	13-17
Copy	Copies project data. (Enabled to copy only from the A drive to the A drive)	13-18
Property display	Displays the project data creation date, author name and the version of GT Designer2.	13-19
Data check	Data check of the file can be executed.	13-20
Download	Downloads the project data written in the A drive (Built-in CF card) to C drive (Flash memory).	13-21
Upload	Uploads the project data written in the C drive (Flash memory) to the A drive (Built-in CF card).	13-23

13.3.2 Display operation of project information



13.3.3 Display example of project information



Number	Item	Contents
(1)	Select drive	The drive by which a file or folder is displayed can be selected. When the CF card is not connected, [A: Built-in CF card] is not displayed.
(2)	Kind	Indicates the type of the displayed name (file or folder). The file is indicated with an extension, while the folder is indicated with "DIR."
(3)	Name	Displays the name of file or folder saved in the selected drive or contained in the selected folder. When the file or folder name exceeds 18 characters, the 19th and later characters are not displayed. If the displayed project data is a GOT monitoring target file, "%" mark precedes the file name. If the displayed project data is currently selected to be displayed, asterisk "*" precedes the file name.
(4)	Path name	Displays the path name of drive/folder which is currently displayed.
(5)	Size	Displays the size of the file displayed in [Name].
(6)	Date and time	Displays the date and time when each file is installed.
(7)	Size of the drive	Displays the size in use and the entire size of the drive selected in [Select drive].
(8)	Operation switch	Displays the execution switch of functions (download, upload, etc.) which can be carried out in [Project information].
(9)	Number of files	Displays the total number of the displayed files.

Remark Displayed folders and files

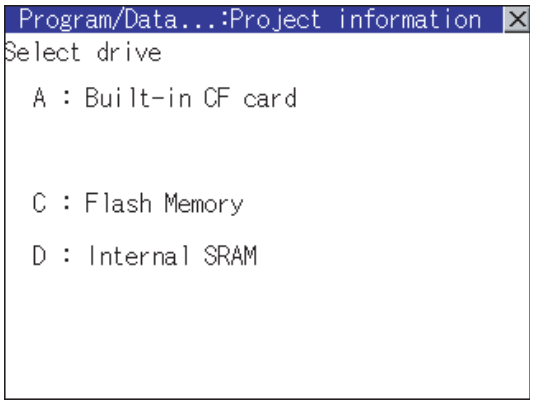
Refer to the following for the details of displayed folders and files.

☞ Section 13.1.5 Display file

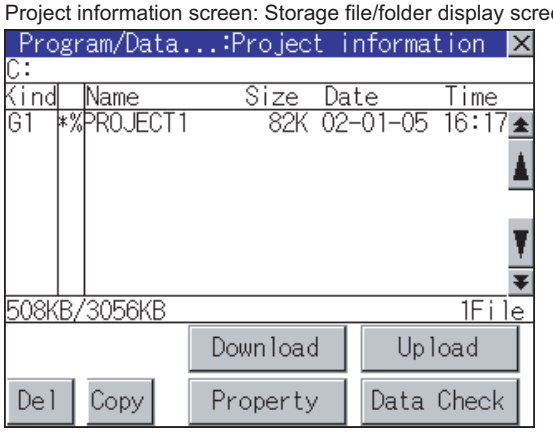
13.3.4 Operation of project information

1 Display operation of project information

Project information screen



Project information screen: Storage file/folder display screen



1 Touch a drive in [Select drive], and the data in the first folder contained in the touched drive is displayed.

2 If touch a folder name, the data contained in the touched folder is displayed.

3 If touch the folder with name [. .], the data in the one-higher hierarchy folder is displayed.

4 Touching the ▲ ▼ button in the scroll bar scrolls up or down by 1 line.
Touching the ⏫ ⏬ button scrolls up or down by 1 screen.

5 If touch a file name, the file is selected and the file name is highlighted.

6 Refer to the following for operation of delete, copy, property, data check, download, upload.

Delete ..... ☞ this section 2
Copy ..... ☞ this section 3
Property ..... ☞ this section 4
Data check ..... ☞ this section 5
Download ..... ☞ this section 6
Upload ..... ☞ this section 7

7 Touching ☒ button closes the screen.

2 Delete operation

This operation deletes the selected file.

1 Touch and select the file to delete.

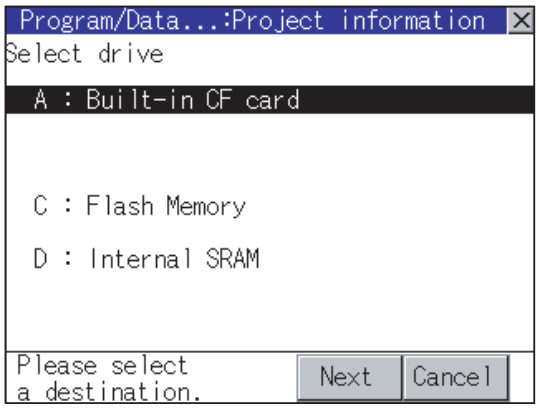
2 Screen mentioned left is displayed if [Del] button is touched.
Confirm the deletion targeted file is specified correctly.
If touch [OK] button, the file is deleted.
If touch [Cancel] button, the deletion is canceled.

3 When the deletion completes, the dialog box shown left is displayed.
If touch [OK] button, the dialog is closed.

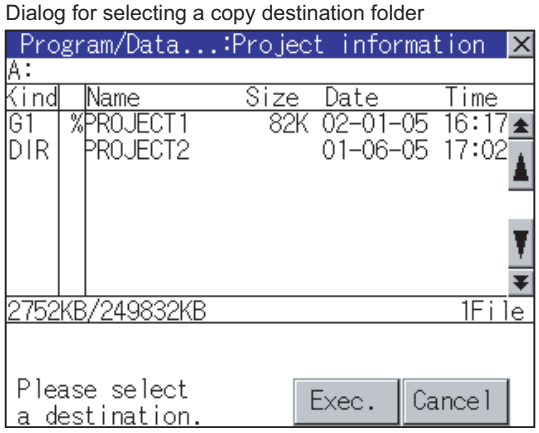
3 Copy operation

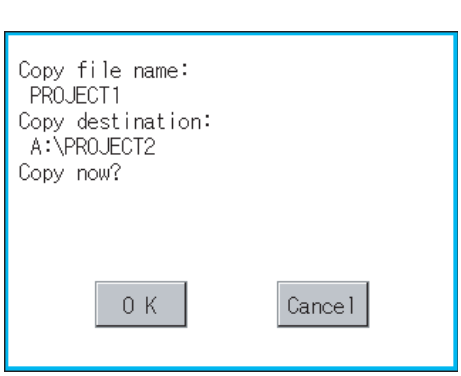
The file in the A drive is copied to another directory of the A drive.
Copy to/from C drive or D drive is disabled.

Dialog for selecting a copy destination drive



Dialog for selecting a copy destination folder





1 Install CF card in the PC, in which create a folder for the copy destination.
Set the same character with [System Setting] of [System Environment] of GT Designer2 for the folder name.

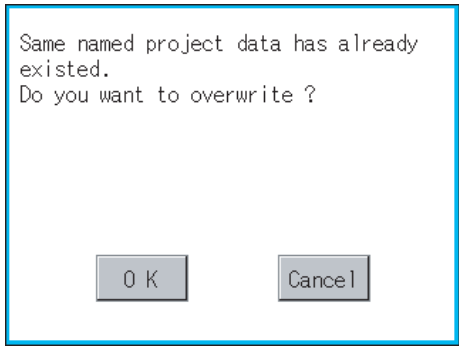
☞ GT Designer2 Version☐ Screen Design Manual
(Section 3.1 GOT/PLC Type Setting)

2 Install the CF card mentioned above to GOT.
Refer to the following for inserting/removing method of CF card.

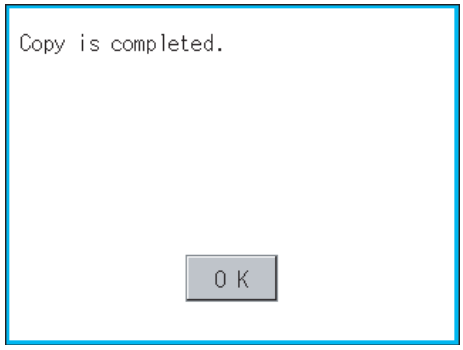
☞ Section 8.1 CF Card

3 Open [Project information] and touch the drive of the file to be copied to select the drive, and then touch the Next button.
The dialog for selecting a copy destination folder as shown left is displayed.

4 Touch the folder display area to select a folder, and then touch the Exec. button.
The dialog shown left is displayed.



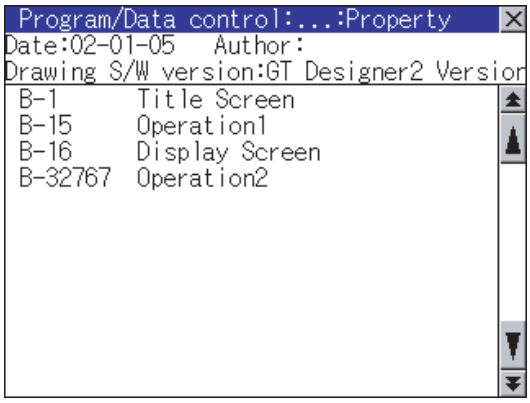
5 Touch [OK] button.
If there is no file of the same name in the copy destination folder, starts to copy.
When there is a file of the same name in the copy destination folder, the dialog mentioned left is displayed without starting the copy.
If copy, in this case, the copied file is overwritten to the project data in the copy destination folder.
If touch [OK] button, starts to copy.
If touch [Cancel] button, cancels to copy.



6 When copying completes, the dialog of completion is displayed.
If touch [OK] button, closes the dialog.

4 Property display operation

Displays the property of the project data in the selected folder.



1 If touch [Property] button after selecting the project data to display the property, the property is displayed as shown left.
In property display, the following information is displayed.

Item	Contents
Date	Displays the creation date of the file.
Author	Displays the author of the project data.
Drawing S/W version	Displays name and version of the drawing software by which the project data is created.

2 If touch [▲][▼] button, the screen scrolls up/down line by line.

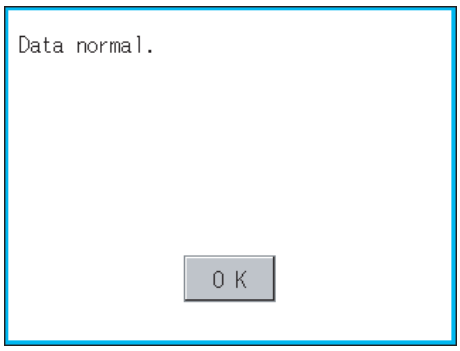
3 If touch [⏫][⏬] button, the screen scrolls up/down by one screen.

4 If touch [☒] button, the property display is closed and returned to the previous screen.

5 Data check operation

Carrys out data check of the selected project file.

When data is normal.

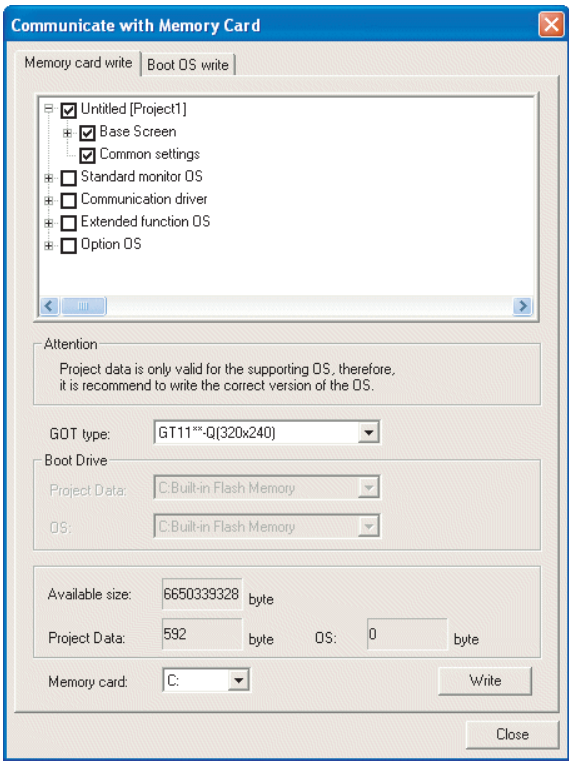


When data is erroneous.

1. Touch the [Data check] button after selecting the file for data check.
   The data check is executed and the result is displayed by the dialog shown left.
2. If touch [OK] button, the dialog is closed.
3. If [Data error] is displayed, the target file may be broken.
   Download the target file again.

6 Download

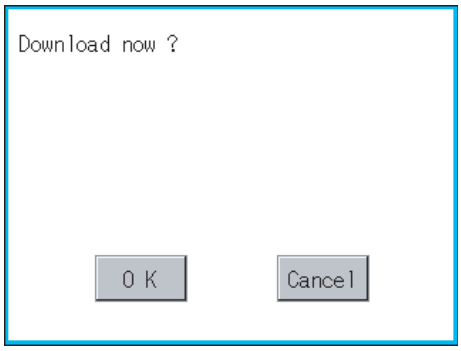
Transfers the project data from the A drive (Built-in CF card) to the C drive (Flash Memory).



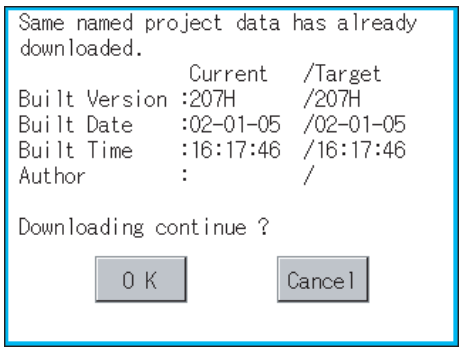
1 Transfer the project data to be downloaded to the GOT to the CF card, using GT Designer2 or another GOT.

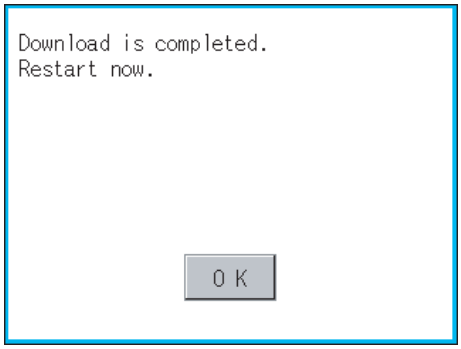
2 Install the CF card mentioned by 1 to GOT. Refer to the following for inserting/removing method of CF card.
☞ Section 8.1 CF Card

3 Touch [A: Built-in CF card] in [Select drive].



4 If touching Download button, the screen mentioned left is displayed.
If touching OK button, the download is executed.



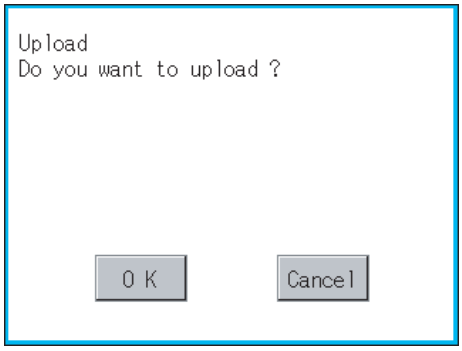


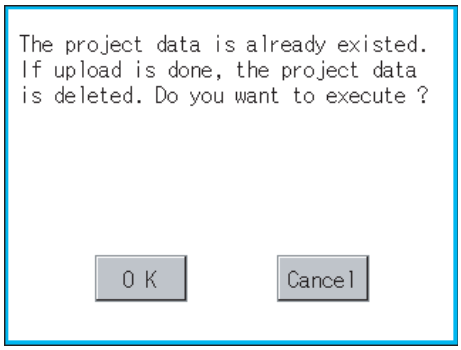
5 Touch [OK] button. If there is no project data of the same name in the C drive, starts the download.
If there is a project data of the same name in the C drive, the screen shown left is displayed without starting the download.
If touching [OK] button, an overwrite download is executed to a project data of the same name.
If touching [Cancel] button, cancels the downloading.

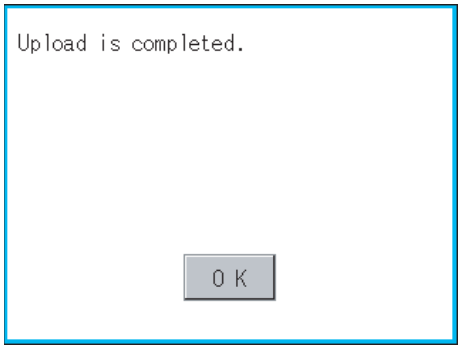
6 When the downloading is completed, the completion dialog mentioned left is displayed.
GOT is restarted if [OK] button is touched.

7 Upload

Transfers the project data from the C drive (Flash Memory) to the A drive (Built-in CF card).







1. Mount the CF card to GOT.
   For the CF card installation/removal method, refer to the following.
   ☞ Section 8.1 CF Card
2. Touch "A: Standard CF card" in the drive selection.
3. If touching [Upload] button, the screen shown on the left is displayed.
4. If touching [OK] button, the upload is executed.
5. If there is a project data of the same name in the A drive, the screen shown on the left is displayed without starting the upload.
   If touching [OK] button, an overwrite upload is executed to the project data of the same name.
   If touching [Cancel] button, the upload is canceled.
6. When the upload is completed, the dialogue box shown on the left is displayed.
   If touching [OK] button, the dialogue box is closed.

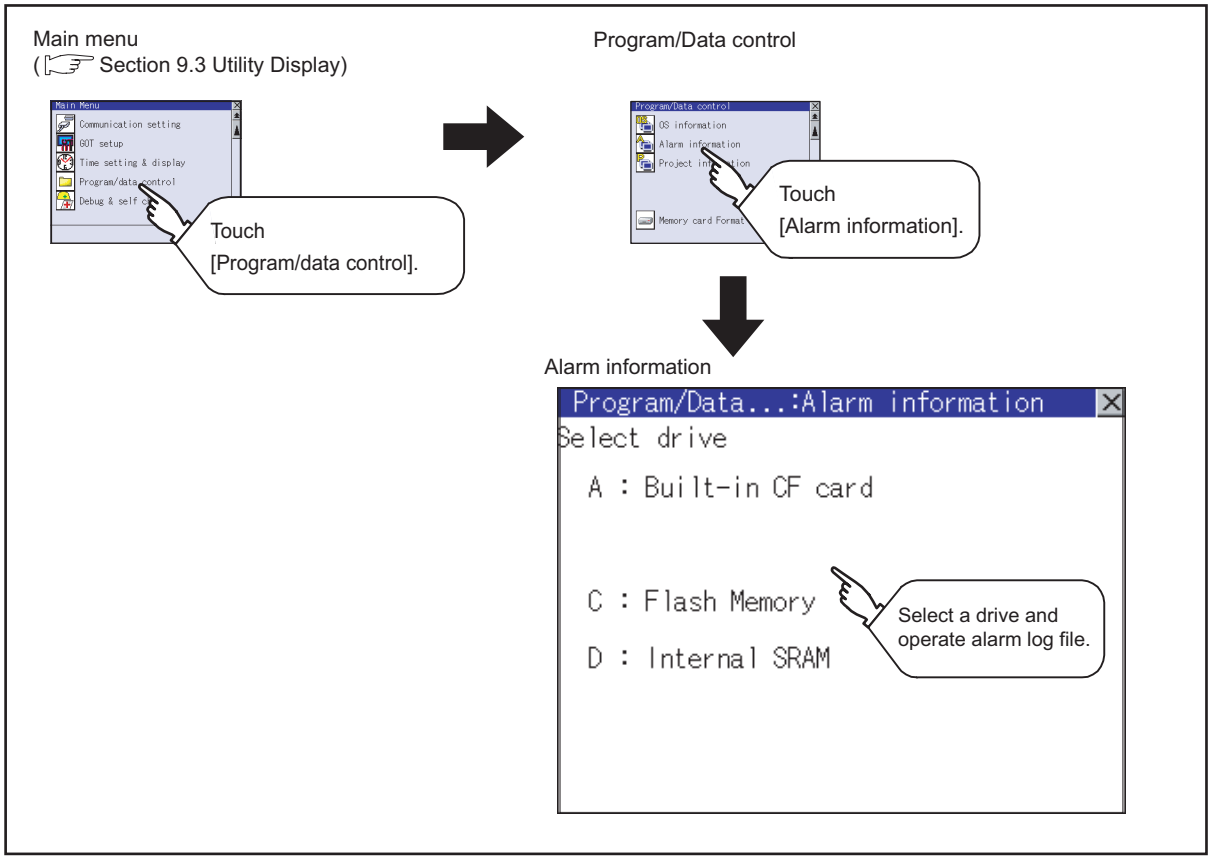
13.4 Alarm Information

13.4.1 Function of alarm information

The alarm log file held by the D drive (Internal SRAM) is displayed.
The functions below can be carried out for files.

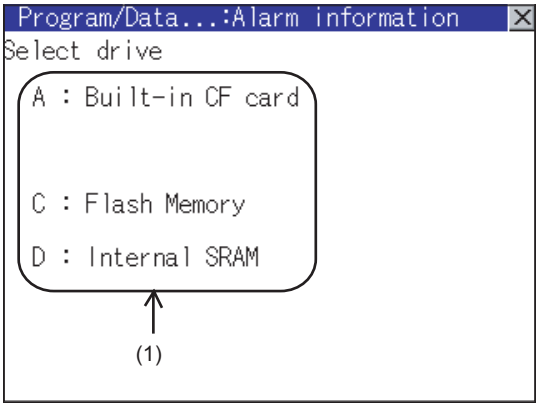
Function	Contents	Reference page
Information display of files and folders	Displays name, data size, creation date and time of file or folder.	13-25, 13-26
Deletion	Deletes file.	13-27
Copy	Copys file.	13-28

13.4.2 The display operation of alarm information

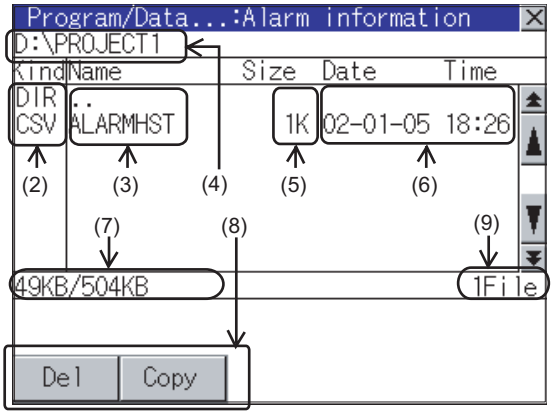


13.4.3 The display example of alarm information

Alarm information screen



Alarm information: Storage file/folder display screen



Number	Item	Contents
(1)	Select drive	The drive of which file or folder is displayed can be selected. When the CF card is not installed, [A: Built-in CF card] is not displayed.
(2)	Kind	Indicates whether the displayed name is file or folder. In case of file, displays the extension; in case of folder, displays "DIR".
(3)	Name	Displays the file name or folder name held by the selected drive or folder. When the file name or folder name exceeds 20 characters, the exceeding characters (the 21th character and after) are not displayed.
(4)	Path name	Displays the path name of drive/folder which is currently displayed.
(5)	Size	Displays the size of the file displayed in Name.
(6)	Date and time	Displays the date and time when each file has been created.
(7)	Drive size	Displays the size in use and the entire size of the drive selected by "Select drive".
(8)	Operation switch	Displays the execution switch of each function (Delete, copy) which can be executed on the alarm information screen.
(9)	Number of files	Displays the total number of the displayed files.

Point

Display of creation date and time

The creation date and time display is not updated even if a file is created or updated while displaying the alarm information display screen.
If close the screen currently displayed (moving the screen to the folder of the upper hierarchy, etc.) and display the screen again, the updated contents are displayed.

Remark

Folders and files displayed

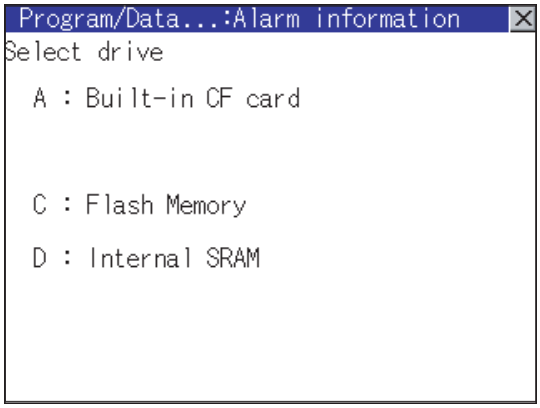
Refer to the following for the details of folders and files displayed.

☞ Section 13.1.5 Display file

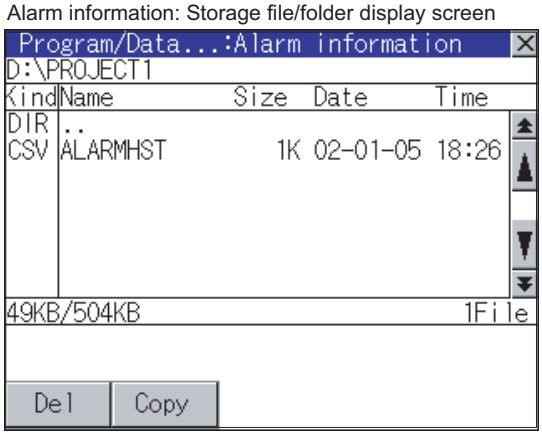
13.4.4 Alarm information operation

1 The display operation of alarm information

Alarm information screen



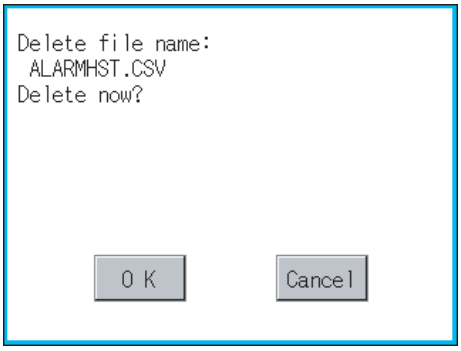
Alarm information: Storage file/folder display screen



1. If touch a drive of [Select drive], the information in the first folder of the touched drive is displayed.
2. If touch a folder name, the information of the touched folder is displayed.
3. If touch a folder of [. .], the information of the folder of the one upper hierarchy is displayed.
4. If touch ▲▼ button of the scrollbar, the screen scrolls up/down by one line.
   If touch ⏫⏬ button, the screen scrolls up/down by one screen.
5. If touch a file name, the touched file name is selected and inverted.
6. Refer to the following for delete, copy, operations.
   Delete ..... ☞ this section 2
   Copy ..... ☞ this section 3
7. If touch ☒ button, the screen is closed.

2 Deletion operation

Deletes selected files.



1. Touch and select the file to delete.

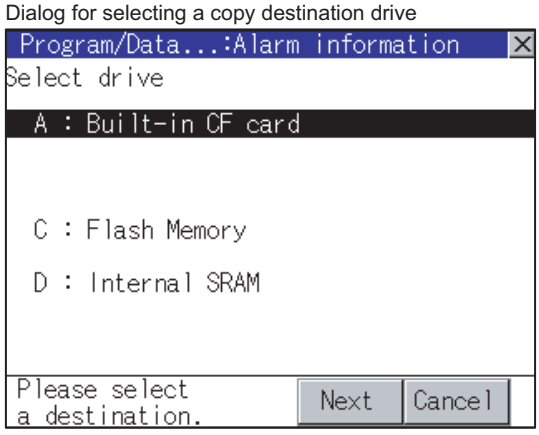
2. If touch [Del] button, the dialog mentioned left is displayed.
   Confirm deletion targeted file is specified correctly.
   If touch [OK] button, the file is deleted.
   If touch [Cancel] button, the deletion is canceled.

3. When the deletion is completed, the completion dialog is displayed.
   If touch [OK] button, the dialog is closed.

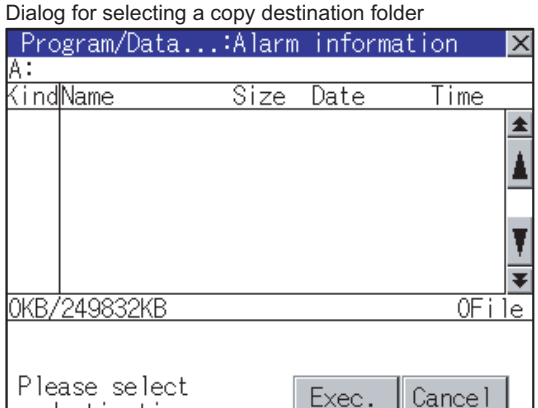
3 Copy operation

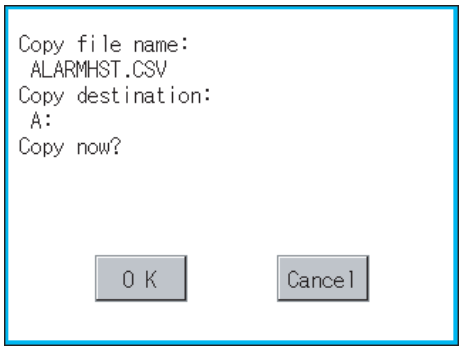
Copies the selected file.

Dialog for selecting a copy destination drive

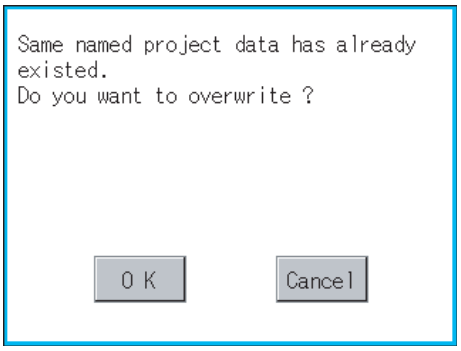


Dialog for selecting a copy destination folder

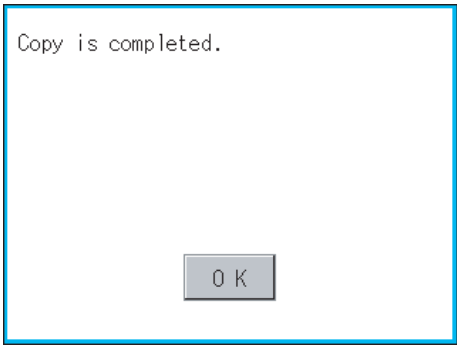




1. Touch and select the file to copy.
2. If touch [Copy] button, the message [Please select a destination.] is displayed in the left bottom of the screen.
3. Touch the drive name display area to select a drive, and then touch the [Next] button. The dialog for selecting a copy destination folder is displayed as shown left.
4. Touch the folder display area to select a folder, and then touch the [Exec.] button. The confirmation dialog shown left is displayed.



5 Touch [OK] button.
If there is no file of the same name in the copy destination folder, starts to copy.
If there is a file of the same name in the copy destination folder, the following dialog is displayed without starting the copy.
If copy, in this case, the copied file is overwritten to the project data in the copy destination folder.
If touch [OK] button, starts to copy.
If touch [Cancel] button, cancels to copy.



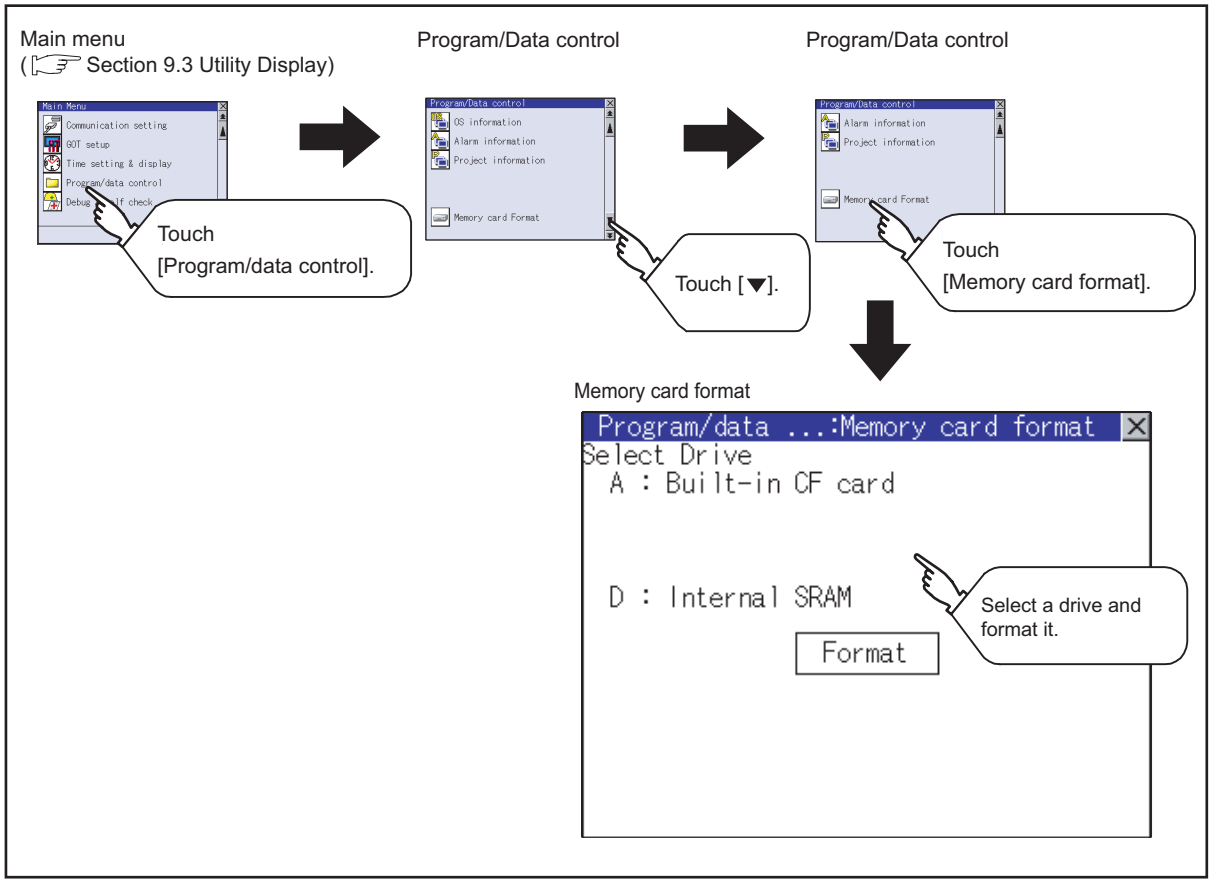
6 When the copy is completed, the dialog of completion is displayed.
If touch [OK] button, closes the dialog.

13.5 Memory Card Format

13.5.1 Format function of memory card

Formats the CF card or Internal SRAM.

13.5.2 Display operation of memory card format

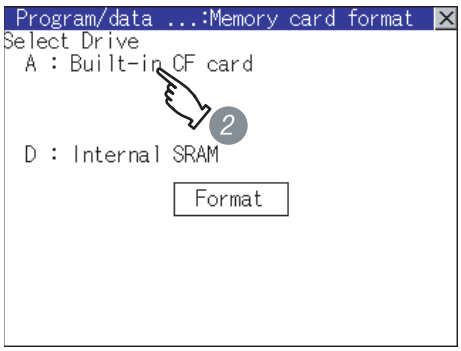


Point

Formatting the D drive (Internal SRAM)

If the GOT is turned off and left in the status without a battery for 30s or longer, the data in the D drive (Internal SRAM) becomes indefinite, possibly disabling data writing. If the GOT is left in the status without a battery for 30s or longer, format the D drive (Internal SRAM).

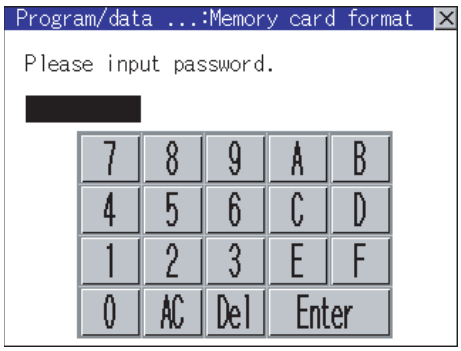
13.5.3 Format operation of memory card



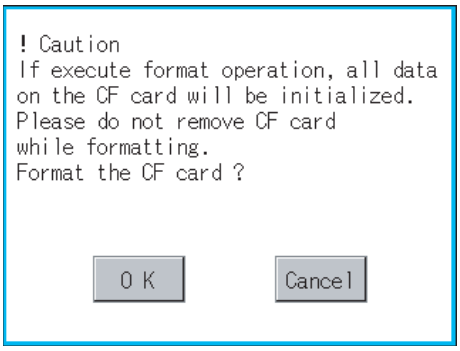
1 To format the CF card, install the CF card to the GOT first.
For the CF card installation/removal method, refer to the following.

Section 8.1 CF Card

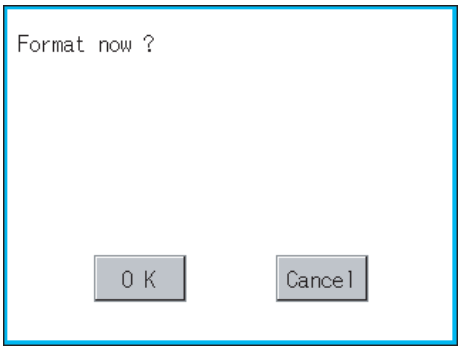
2 Touch and select the drive to format by [Select Drive].



3 If touch [Format] button, the password input screen is displayed.

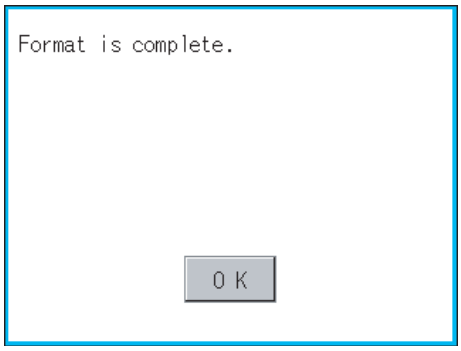


4 Type [1][1][1][1] and touch the [Enter] key.
The dialog box shown on the left will appear. (The password is fixed to 1111.)
Confirm the contents of the dialog.
When execute the CF card format, touch [OK] button.
When cancel the CF card format, touch [Cancel] button.



5 If touch [OK] button by 4, the dialog mentioned left is displayed for reconfirm.

6 Reconfirm whether to format the CF card.
If touch [OK] button, starts formatting.
If touch [Cancel] button, cancels formatting.



7 When the formatting is completed, the completion dialog mentioned left is displayed.

8 If touch OK button, closes the dialog.

Remark Restrictions on formatting

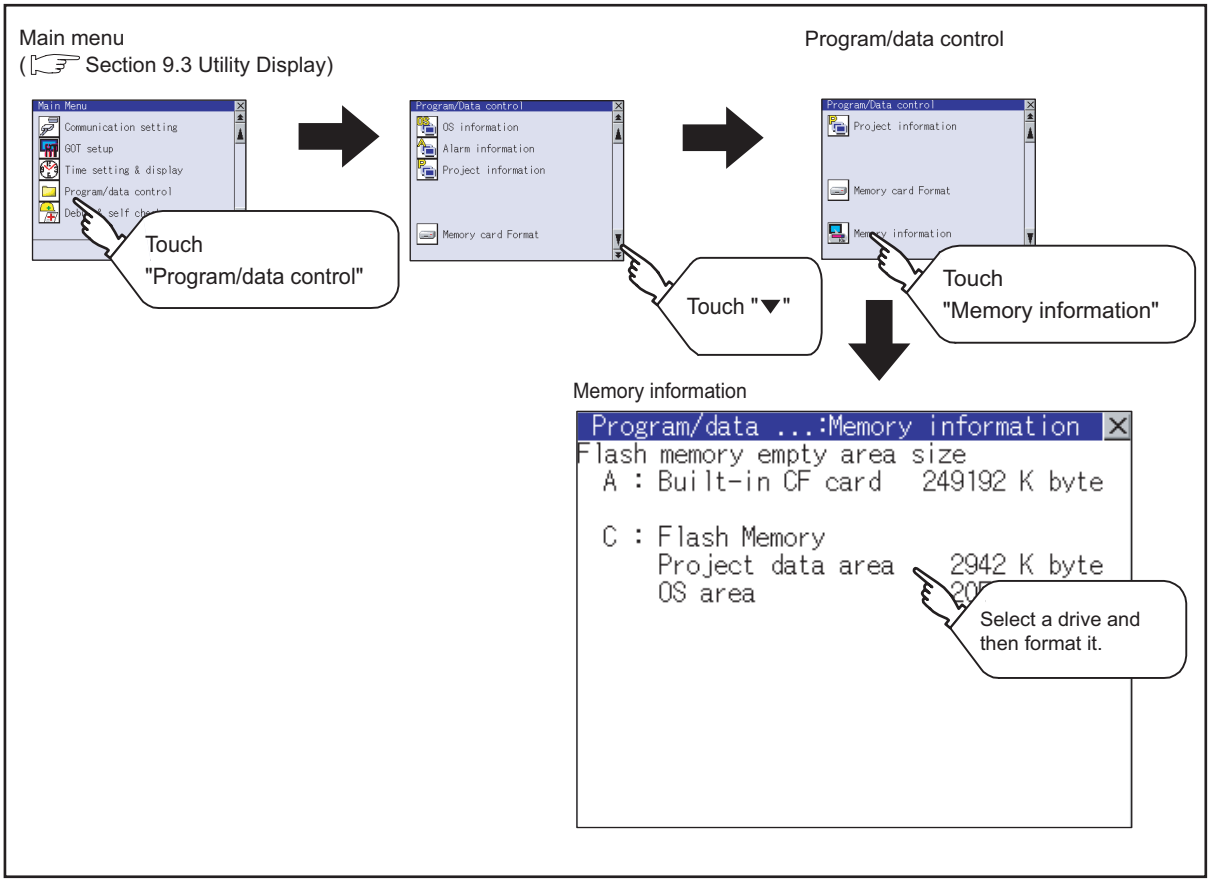
- When use an unformatted CF card in GOT, format the CF card by PC. GOT cannot format the unformatted CF card.
- The formatting of GOT does not change the file system (Example: FAT16) of the CF card and inherits the file system before formatting.

13.6 Memory Information

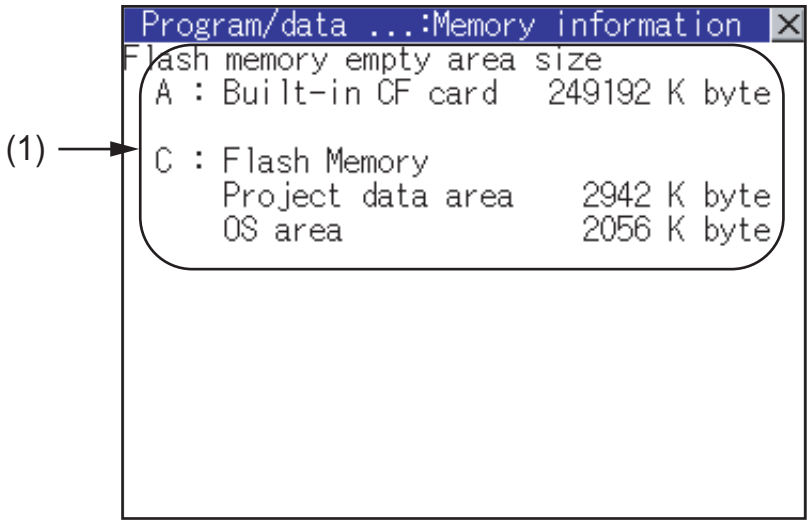
13.6.1 Memory information function

The following shows the amount of the memory empty area size and boot Drive information empty area size which can be used by the user of each drive (A: Standard CF card, C: Built-in Flash Memory).

13.6.2 Memory information display operation



13.6.3 Display example of memory information


Program/data ...:Memory information
Flash memory empty area size
A : Built-in CF card 249192 K byte
C : Flash Memory
Project data area 2942 K byte
OS area 2056 K byte
(1)

No.	Setting items	Description
(1)	Flash memory empty area size	Indicates the amount of memory empty area size for each drive in which a file or folder can be stored. If CF card is not mounted, "A: Standard CF card" is not displayed.

14. GOT SELF CHECK (DEBUG & SELF CHECK)

The GOT can display the screen for debugging or self-checking.
The following describes the functions available as the debugging and self-checking function.

Items	Contents	Reference page
Debug	System monitor, A list editor and FX list editor	14-1
Self check	Memory check, Drawing check, Font check, Touch panel check and I/O check	14-2

14.1 Debug

This manual covers only an outline of the debugging function and operations until displaying the screen.
For display contents of each debugging function and operation method, refer to the following manual.

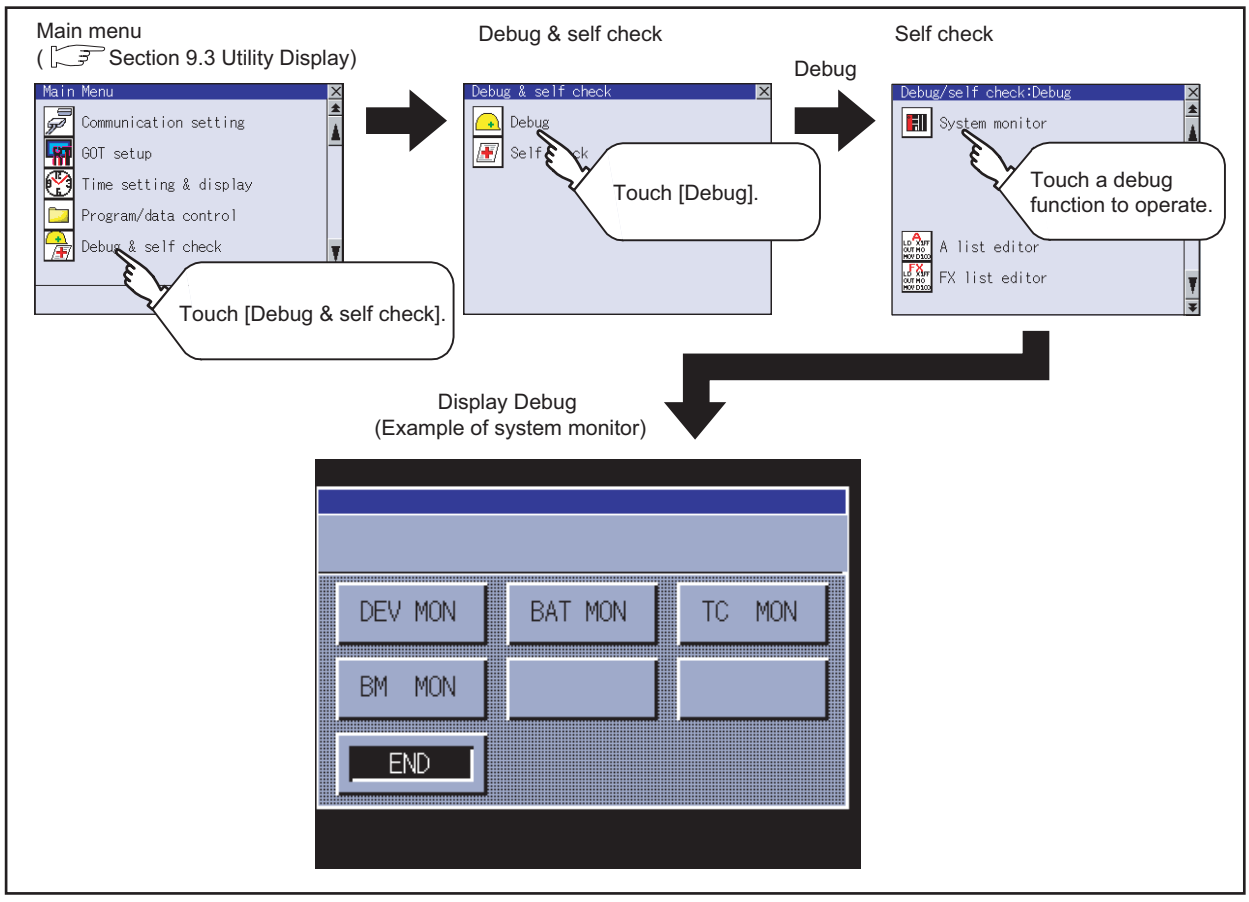
☞ GOT1000 Series Extended/Option Functions Manual

14.1.1 Debug functions

The debug function includes functions for the PLC system status check and those for increasing the efficiency in troubleshooting.
The following items can be realized with the debug function.

Items	Contents
System monitor	The device of PLC CPU or buffer memory of the intelligent function module can be monitored and tested.
A list editor	The sequence program of ACPU can be list edited.
FX list editor	The sequence program of FX PLC can be list edited.

14.1.2 Display operation of debug



14.2 Self Check

14.2.1 Self check function

Carries out self-check for the GOT hardware or memory etc.
The items that can be self-checked are as follows.

Items	Contents	Reference page
Memory check	Carries out write/read check of the Built-in CF card, Flash memory, and Internal SRAM. Password: "5920" (fixed)	14-3
Drawing Check	Carries out missing bit check, color check and drawing check.	14-7
Font check	Displays the character data on the screen to check visually.	14-12
Touch panel Check	Checks whether there are no dead zone area in the Touch key minimum unit (16 dots x 16 dots).	14-14
I/O check	Carries out RS-422 and RS-232 connecting target confirmation (CPU communication check) and the RS-232 self-loopback check (hardware check of the RS-232 interface).	14-16

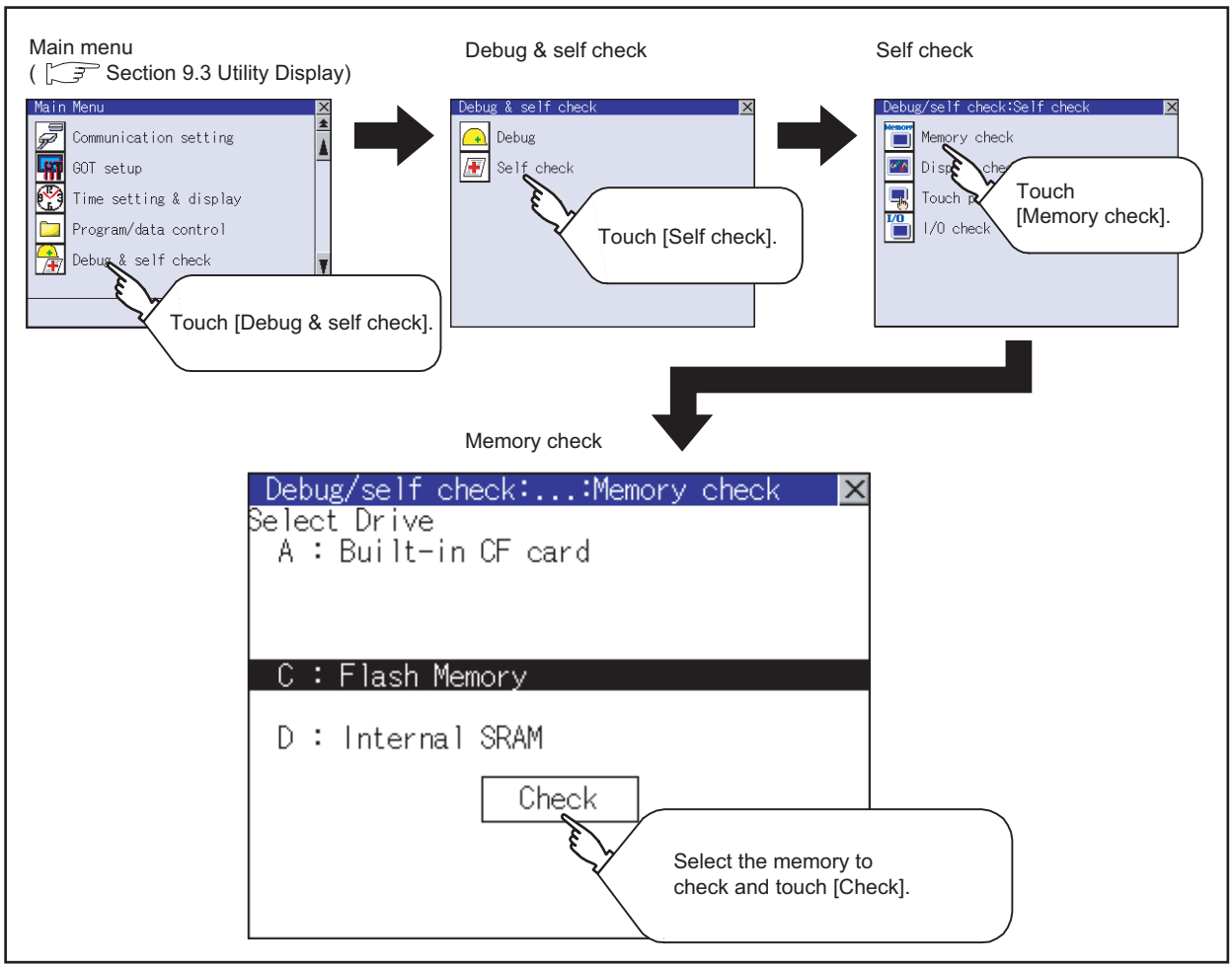
14.3 Memory Check

14.3.1 Memory check function

The memory check function carries out the write/read check of the Standard CF card, Flash memory, and Internal SRAM.

Function	Contents
A drive memory check	Checks whether the memory (Standard CF card) of the A drive can be read/written normally.
C drive memory check	Checks whether the memory (Flash memory) of the C drive can be read/written normally.
D drive memory check	Checks whether the memory (Internal SRAM) of the D drive can be read/written normally.

14.3.2 Display operation of memory check



14.3.3 Memory check operation

Carries out write/read check of memory.

Point

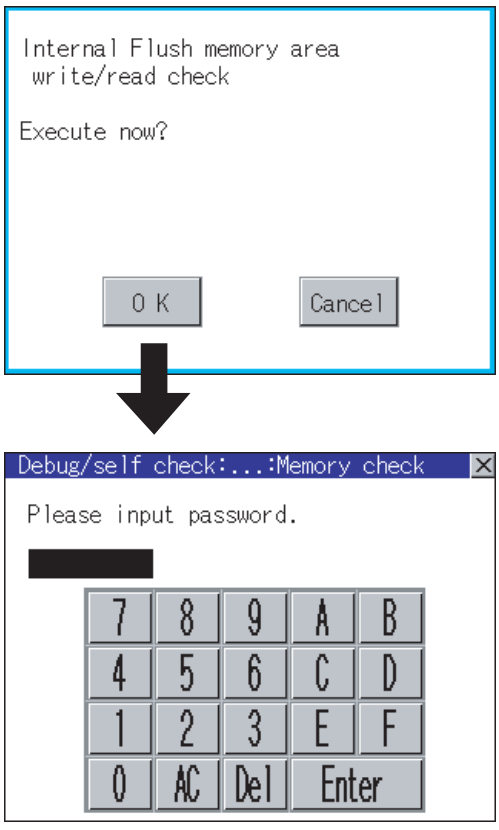
When drive is not displayed

When the drive (memory) to check is not displayed, confirm the mounting procedure or memory type with reference to the following.

- CF card inserting/removing method ☞ Section 8.1 CF Card

When no faults are found in mounting, etc, a memory failure may be arosen.
Replace the CF card or Flash memory (C drive).
For details of Flash memory, contact your nearest sales office or FA Center.

The following example explains about Memory Check using Flash memory (C drive).
For the standard CF card (A drive) memory check, install the CF card before carrying out the same key operations as Flash memory.

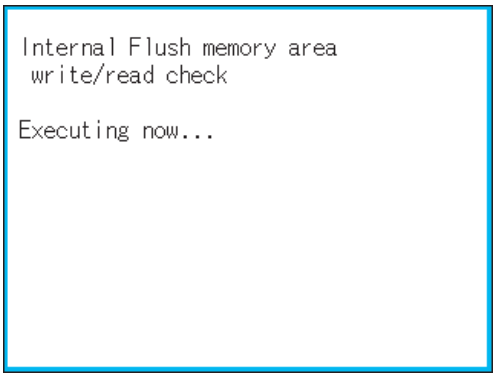


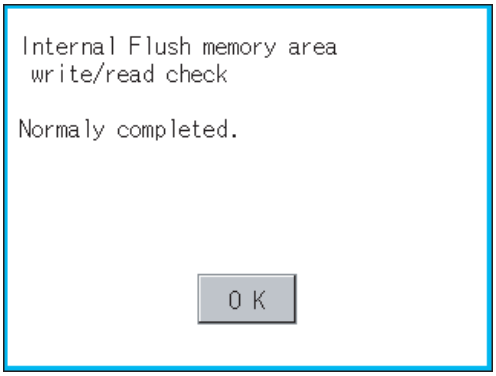
1 Select [Flash Memory] in the [Memory check] setting screen, and touch the [Check] button.

If select the [OK] button, the numeric keyboard window is displayed.

If select the [Cancel] button, the screen returns to the initial menu.

2 Touch [5][9][2][0] and then [Enter].
(The password is fixed to 5920.)
Touching [Enter] executes read/write check for the flash memory.





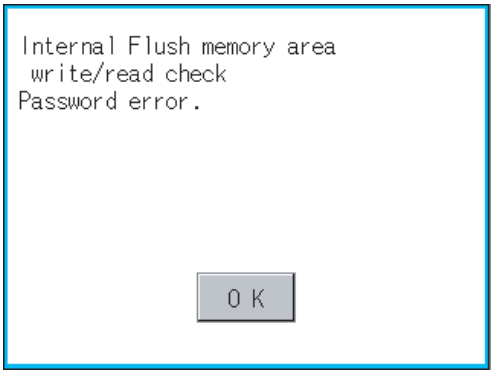
5 Touching the OK button returns to the [Memory check] screen.

Remark

Password change

The password cannot be changed.

When input password error, the cancel dialog is displayed.



If touch OK, returns to the [Memory check] screen.

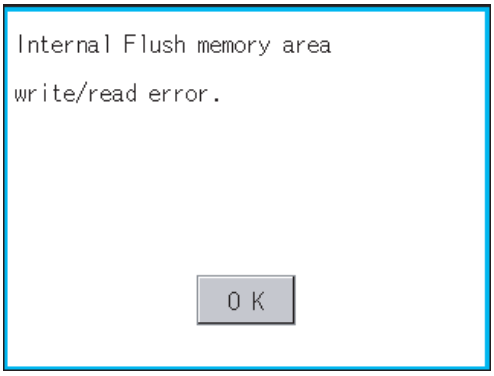
Point

When error is found in the memory

When error is found by memory check, the dialog indicating the area in which the error occurred is displayed.
If an error is found in the D drive [Internal SRAM], format the internal SRAM.
For details of the formatting of the D drive [Internal SRAM], refer to the following.

☞ Section 13.5 Memory Card Format

If an error is found in the C drive [Flash memory] or the D drive [Internal SRAM] right after formatting, contact your nearest sales office or FA Center.



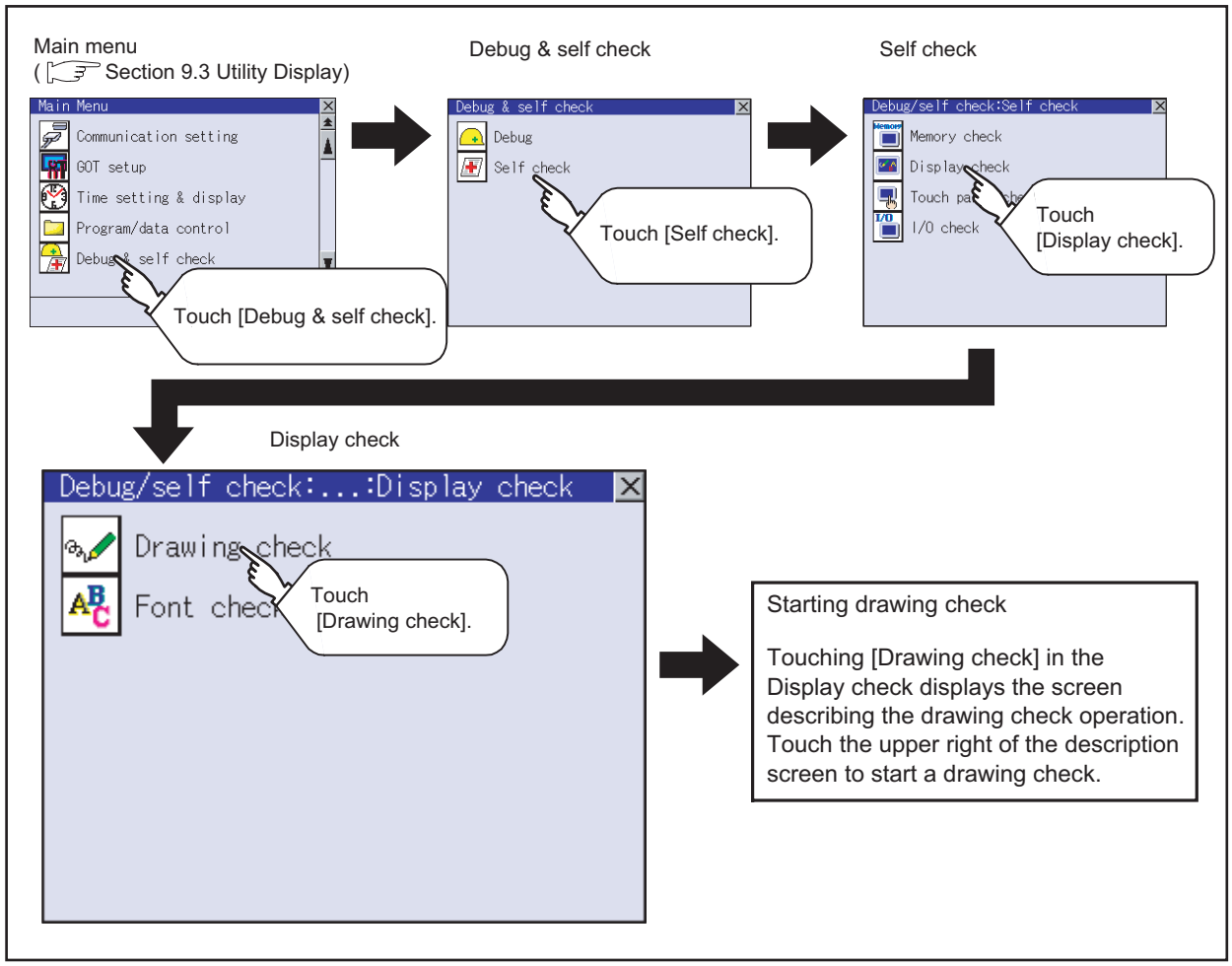
If touch OK, the screen returns to the [Memory check] screen.

14.4 Drawing Check

14.4.1 Drawing check function

The drawing check function carries out display checks as missing bit check, color check, basic figure display check, move check among screens.

14.4.2 Display operation of drawing check



Point

Notes on drawing check

Missing bits is occurred in the following cases.

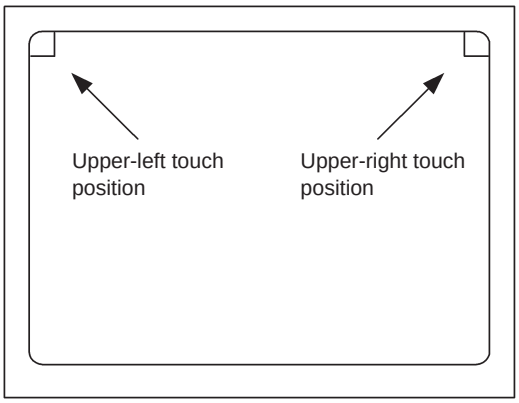
1. There are parts drawn in different color with the filled color.
2. There are parts of basic figure and drawing patterns which are not drawn according to the layout and procedures described in "Section 14.4.3 Display and operation of drawing check".

When missing bits occurs, contact your nearest sales office or FA Center.
A flicker may be caused in some display colors. This is a characteristic of the LCD panel; it is not due to a fault or failure of the product.

14.4.3 Display and operation of drawing check

Touching [Drawing check] in the [Display check] displays the screen describing the drawing check operation.
Touch the upper right of the screen to start a drawing check.

1 Before execute drawing check



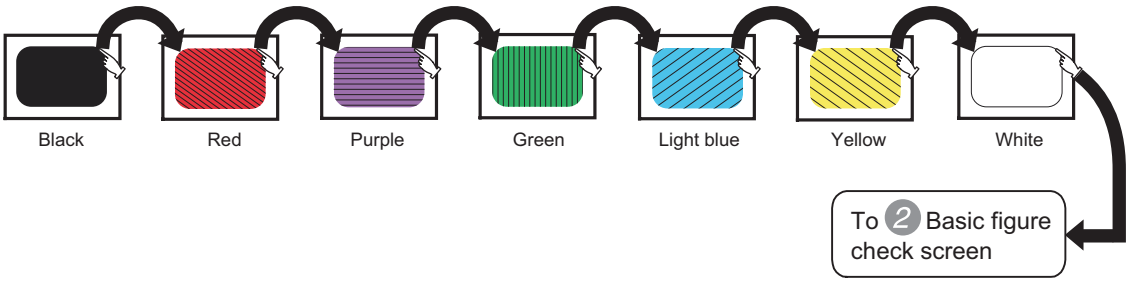
(1) Touching the upper right part of the screen proceeds to the next check in each step during the drawing check. Touching the upper left part of the screen returns to the [Display check] screen.

(2) For GT1155 (256 colors), color display (black, red, purple, green, light blue, yellow and white) is available.
For GT1150 (monochrome 16 scales), the colors are reduced to the 16-scale monochrome.
This section describes with an example using GT1155 (256 colors).

1 Missing bit, Color Check

By touching the upper-right part of the screen, the entire screen color changes in the following order:

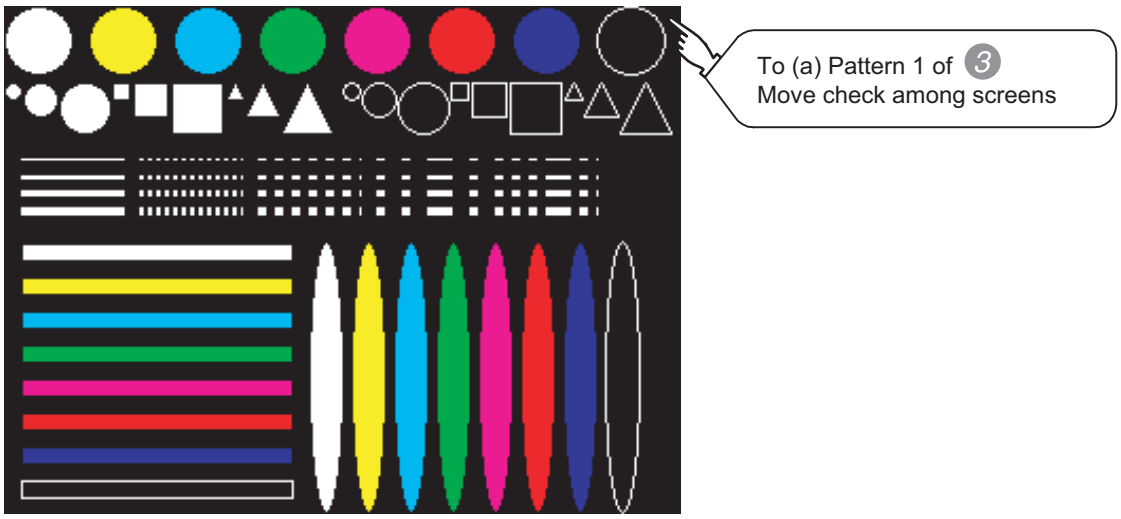
black → red → purple → green → light blue → yellow → white.
Check missing bit and color visually.



If touch the upper right part of the screen at the final color (white screen), the following 2 Basic figure check screen is displayed.

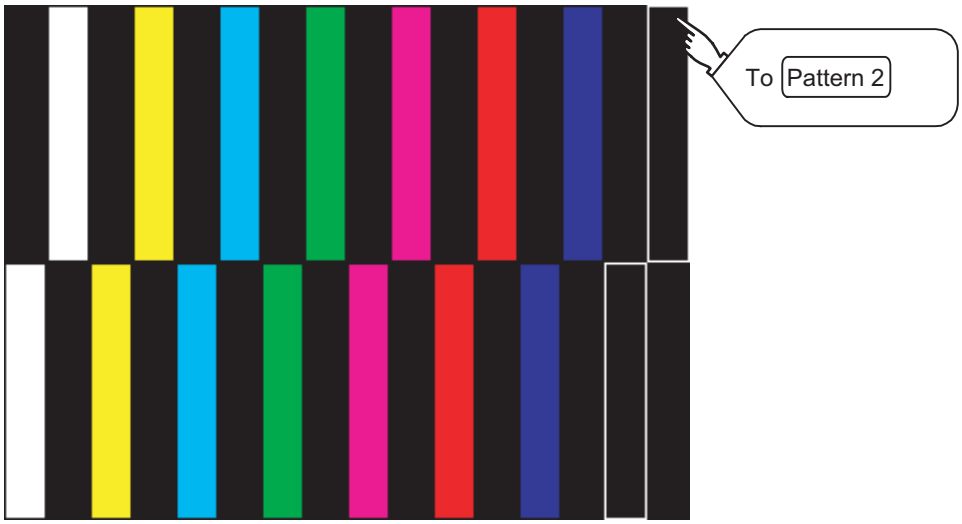
2 Basic figure check

Check whether there is no shape transformation of basic figure or display losses.
The basic figure drawn has 4 types: 1. Filled circle, 2. Line, 3. Rectangle, 4. Ellipse.



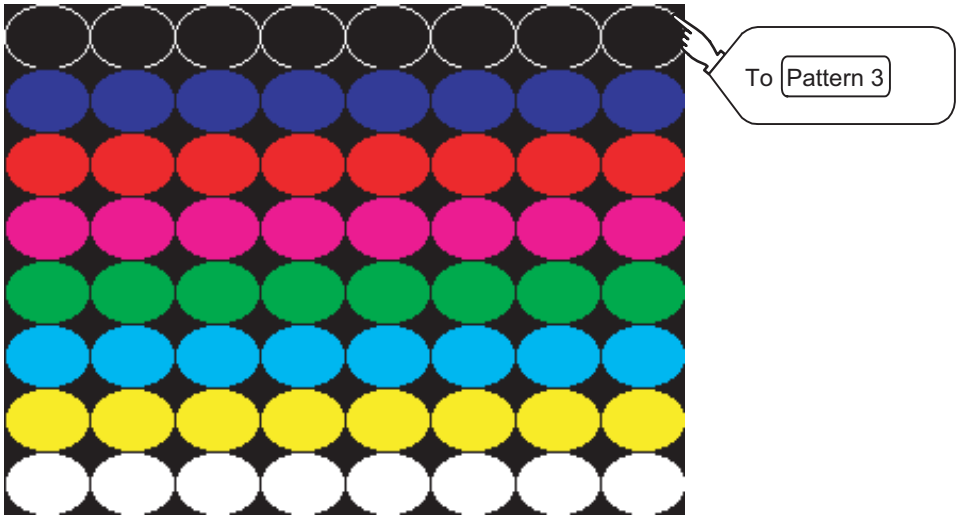
3 Move check among screens

(a) Pattern 1: Shape transformation, color check
The drawn figures are displayed in order and at regular intervals.
If the shape and color (white, yellow, light blue, green, purple, red, blue, black) are displayed visually in order, it is normal.
For GT1150 (monochrome 16 scales), each color is subtracted to monochrome 16-scale.



Pattern 1

(b) Pattern 2: Shape transformation, color check
The drawn figures are displayed in order and at regular intervals.
If the shape and color (white, yellow, light blue, green, purple, red, blue, black) are displayed visually in order, it is normal.
For GT1150 (monochrome 16 scales), each color is subtracted to monochrome 16-scale.



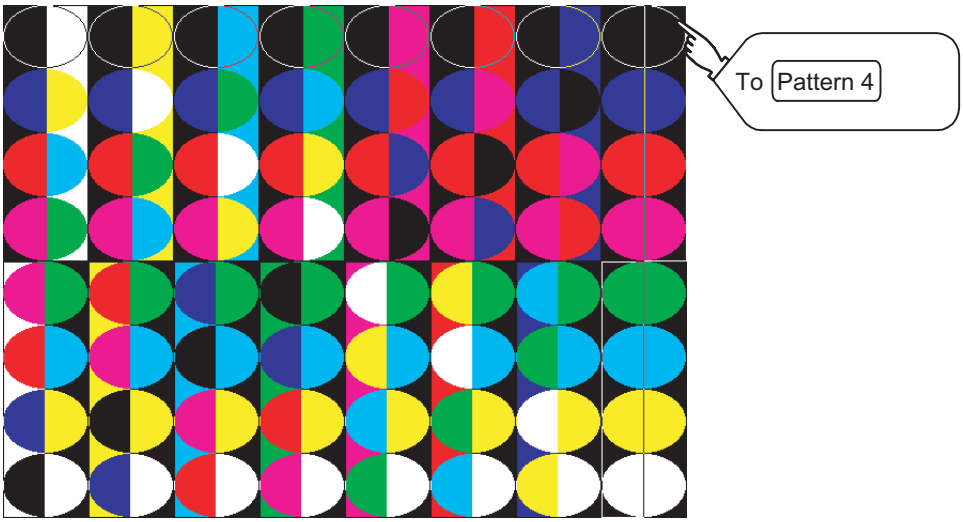
Pattern 2

(c) Pattern 3: Shape transformation, color check

The overlaped shapes of pattern 1 and pattern 2 are displayed.

If the shape and color (white, yellow, light blue, green, purple, red, blue, black) are displayed visually in order, it is normal.

For GT1150 (monochrome 16 scales), each color is subtracted to monochrome 16-scale.

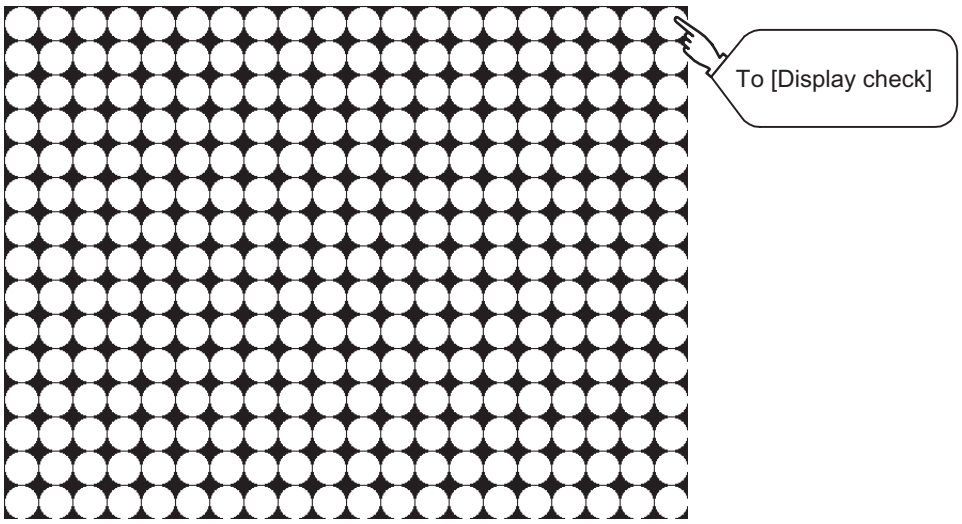


(d) Pattern 4: Shape Check

The drawn figures are displayed in order and at regular intervals.

If the shape and color are displayed visually in order, it is normal.

If touch the upper right part of the screen, returns to [Display check] screen.

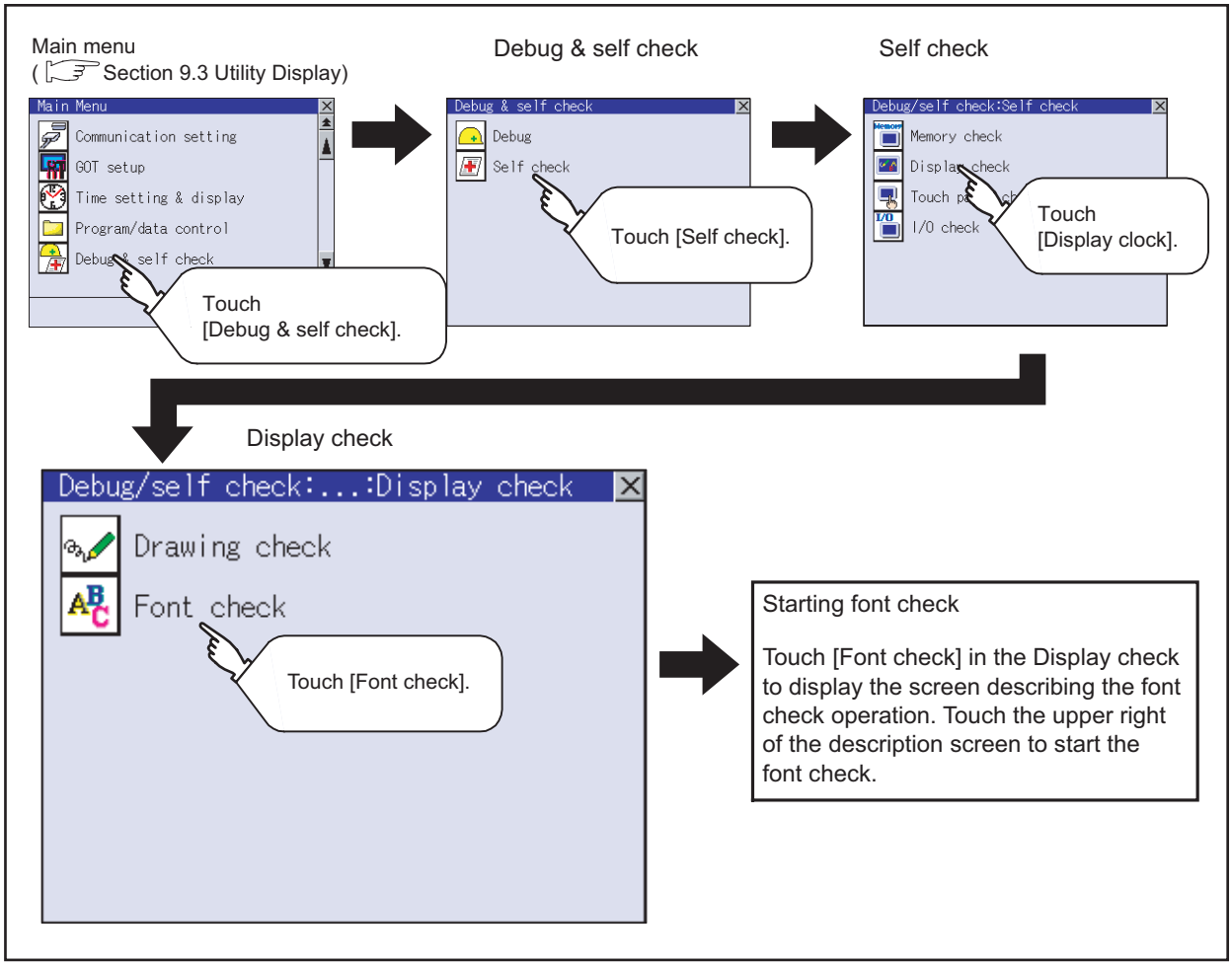


14.5 Font Check

14.5.1 Font check function

The font check is a function which confirms fonts installed in GOT. The character data of the font is displayed on the upper left part of the screen one by one.

14.5.2 Display operation of font check



Point

Notes on font check

Judged as normal if the following characters are correctly displayed. (UNICODE)

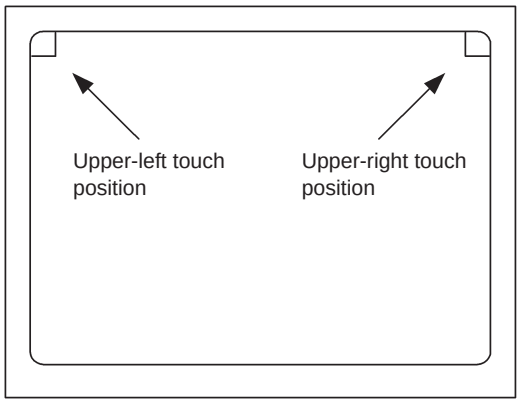
Alphabetic & etc.	: 0 x 0000 to 0 x 04F9 (From basic Latin to Kirill)
Hankul	: 0 x AC00 to 0 x D7A3 (Hangul / Hangul auxiliary)
Chinese Characters	: 0 x 4E00 to 0 x 9FA5 (CJK integrated Kanjis)

If the characters above are not displayed correctly, the fonts may not be normally installed.
Install the Standard monitor OS again.

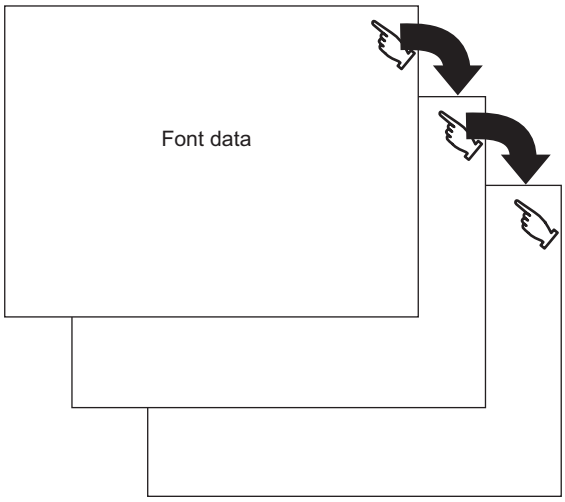
14.5.3 Font check operation

Touching [Font check] in the [Display check] menu displays the screen describing the font check operation.
Touching the upper right of the screen starts the font check.
The character data of the installed font (stored in the flash memory) can be displayed on the screen one by one to confirm the font drawings visually.

1 Before execute font check



Touching the upper right part of the screen proceeds to the next check in each step during Font check.
Touching the upper left part of the screen returns to the [Display check] screen.



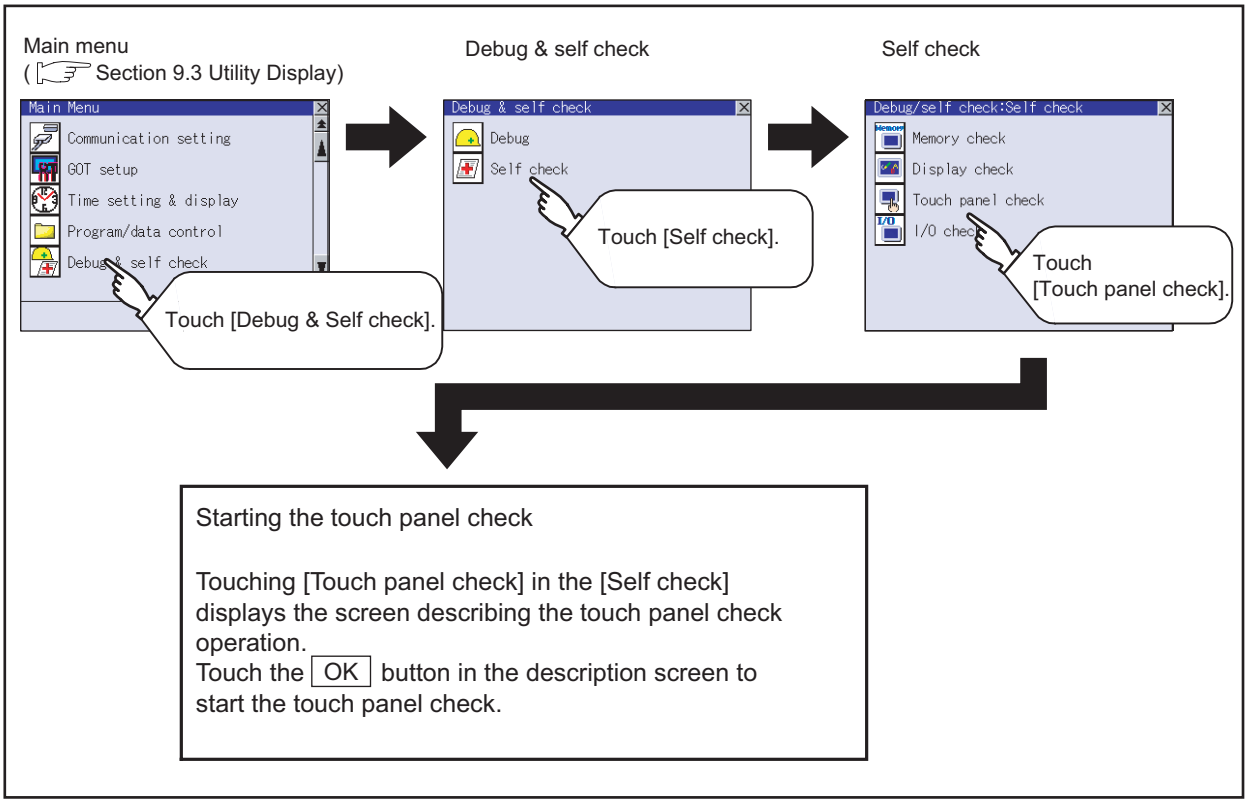
The installed font data is displayed by touching the upper right part of the screen.

14.6 Touch Panel Check

14.6.1 Touch panel check function

Touch panel check is a function which checks whether there is no dead zone area in touch key minimum unit (16 dots x 16 dots).

14.6.2 Display operation of touch panel check



Point

Notes on Touch panel check

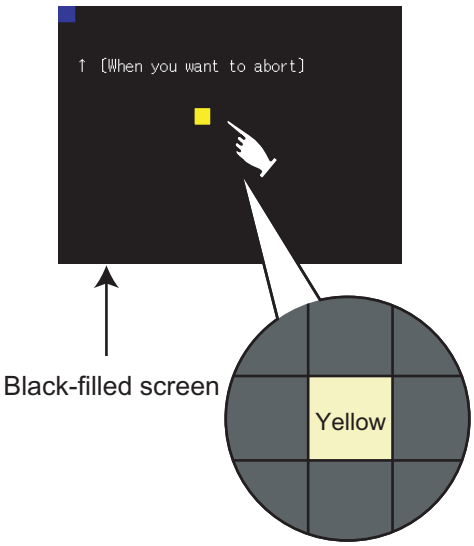
If the touched part is not filled with yellow color, there are the following two possible causes.

1. Display part failure
2. Touch panel failure

In that case, contact your nearest sales office or FA Center.

14.6.3 Touch panel check operations

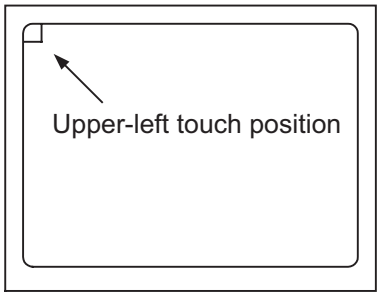
Touching [Touch panel check] of [Self check] displays the screen explaining the touch panel check operation.
Touch the OK button to start the touch panel check.



1 Touch a part of the screen.

The touched part becomes a yellow[*1]-filled display.
If not displayed in yellow even when touched, the display part may be faulty. In this case, contact your nearest sales office or FA Center.

*1: For a monochrome 16-scale GOT, the part is displayed with a subtracted yellow color.



2 If touch the upper left part, returns to the [Self-check] screen.

Remark

Checking the upper left part of the screen

Only the upper left part of the screen cannot be filled with yellow.[*1]
If returnes to the [Self check] screen by touching the upper left part, judge that the upper left area operates normally.

*1: For a monochrome 16-scale GOT, the part is displayed with a subtracted yellow color.

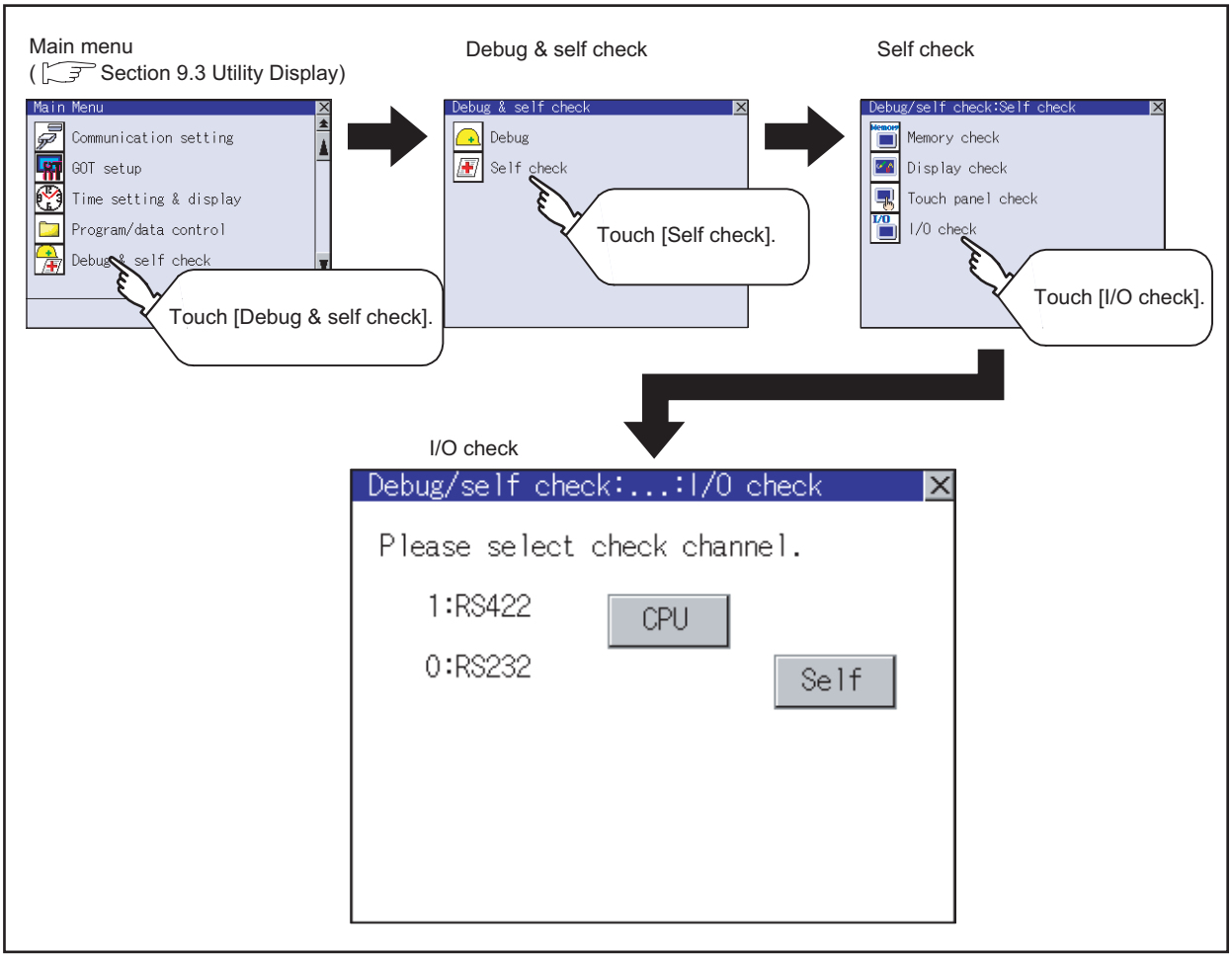
14.7 I/O Check

14.7.1 I/O check function

The I/O check is a function which checks whether GOT and PLC can communicate with each other.
If I/O check ends normally, the communication interface and the connection cable hardwares are normal.
To execute I/O check, the PLC communication driver has to be installed in GOT in advance from GT Designer2.
Refer to the following for the details related to the installation of the PLC communication driver.

☞ GT Designer2 Version□ Basic Operation/Data Transfer Manual
Chapter 8 TRANSFERRING DATA

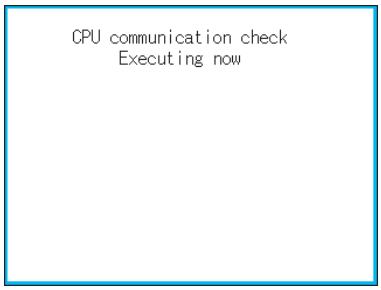
14.7.2 Display operation of I/O check



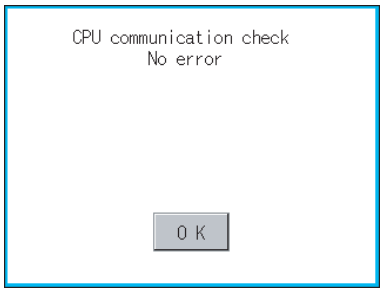
1 Target confirmation

1 As a preparatory step for the CPU communication check, perform the following items.
- Installing [Communication driver]: Use GT Designer2 to install.
- Setting [Communication settings]: Use GT Designer2 to enter and download.
- Connecting connection device: Connect a PLC to the communication interface for which the CPU communication check is applied in order to start the communication.
  (Check for the power is on or if any error occurred.)

2 If touch the CPU button, the CPU communication check is carried out.

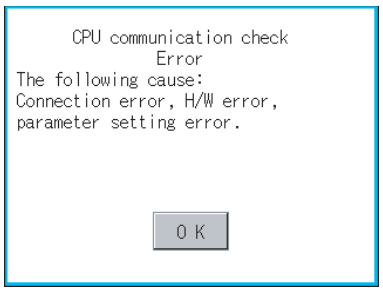


3 After the CPU communication starts normally, the dialog mentioned left notifying that it is on checking, until the CPU communication check ends normally.



4 When the CPU communication check ends, its result is notified by dialog.

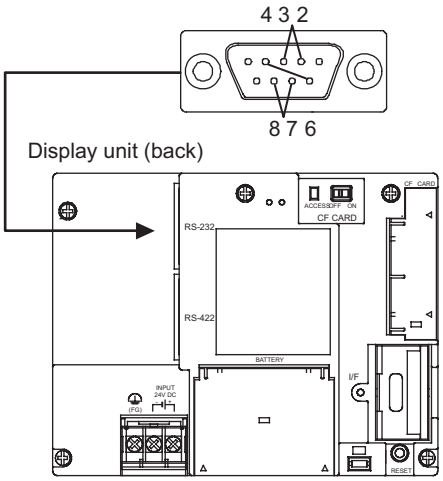
If the CPU communication check ends normally, the dialog notifying of the normal termination mentioned left is displayed. If touch the OK button in the dialog after confirming the result, returns to I/O check.



If the dialog mentioned left is displayed after selecting CPU or during CPU communication check, confirm the following.
- No misconnection with CPU
  (☞ GOT1000 Series Connection Manual)
- No hardware error
  (☞ GOT1000 Series Connection Manual)
- No missettings of parameter
  (☞ Section 10.2 Communication Detail Settings)

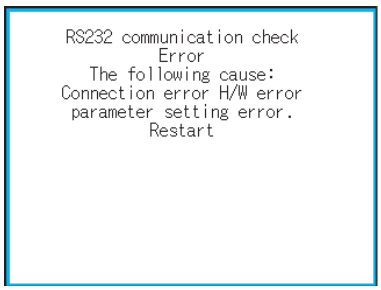
If touch the OK button in the dialog after confirming the result, returns to I/O check.

2 Self-loopback

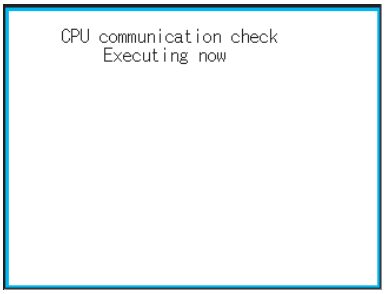


1 For preparation for the self-loopback communication check, insert the connector for self-loopback check (Customer purchased) shown in the diagram left in the RS-232 interface.
For this connector, short 2 and 3 pins, 7 and 8 pins, 4 and 6 pins, respectively.

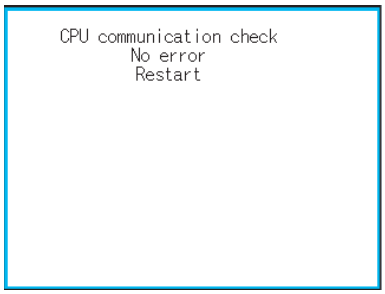
2 If touch the [Self] button, the hardware check for the RS-232 interface is carried out.



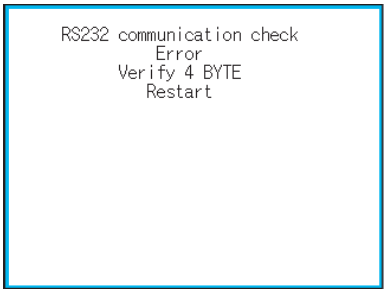
3 After selecting [Self], the transferred data and received data are verified through the self-loopback connector. If data can not be received during data transmission, the dialog shown left is displayed, which notifies the self-loopback connector failure, self-loopback connector communication error or RS-232 interface hardware failure.



4 During check, the dialog shown left is displayed.



5 When all checks end normally, the dialog shown left is displayed, and the GOT restarts.



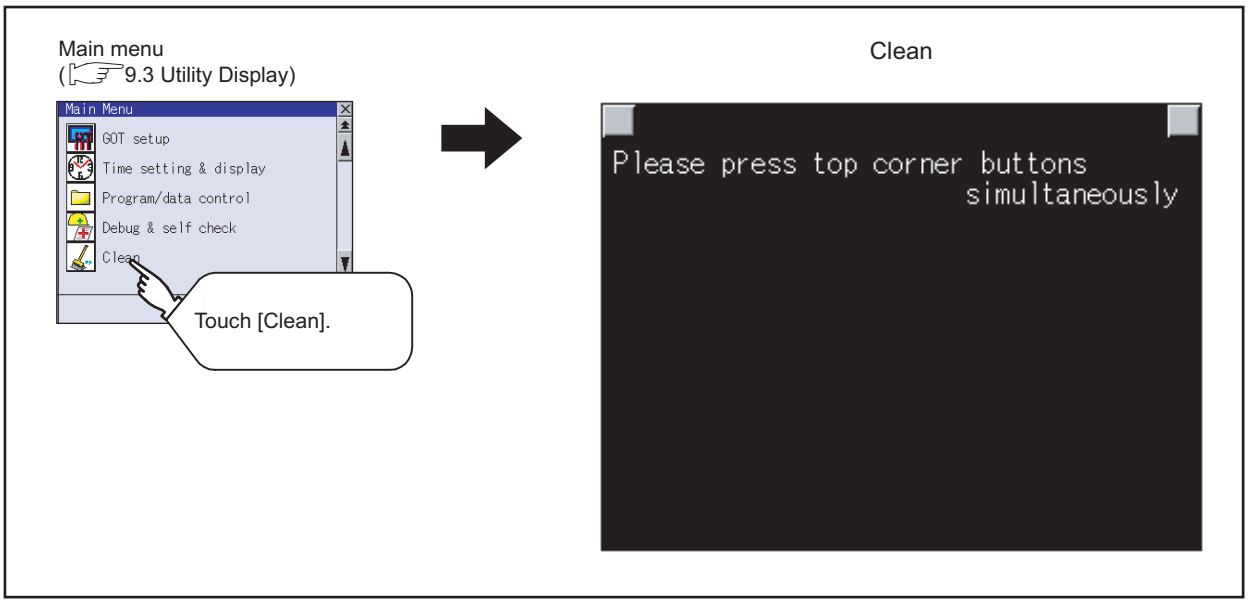
6 If an error occurs the dialog is displayed at that point, notifying the GOT has terminated abnormally and which byte the error occurred, and then the GOT restarts.
If a verification error occurs, the RS-232 interface hardware may be faulty.

15. CLEANING OF DISPLAY SECTION (CLEAN)

In utility, the screen can be set as not to be effected by touching the screen when clean with clothes.
For cleaning method, refer to "Section 17.3 Cleaning Method".

15.1 Clean

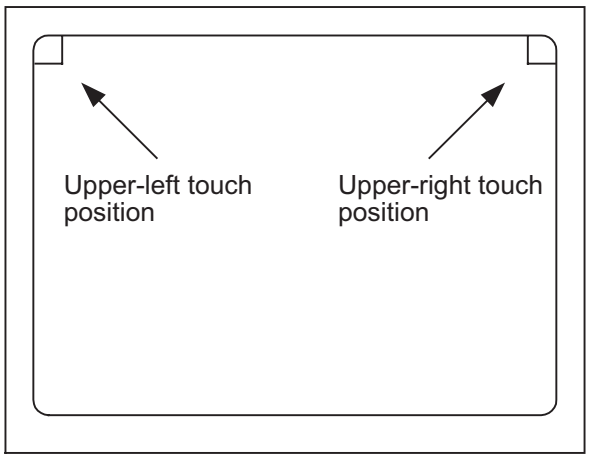
15.1.1 Display operation of clean



Even if touch points other than the upper left corner and upper right corner of the screen, the GOT does not operates.

15.1.2 Operation of clean

If touch the upper left and upper right corners of the screen at the same time, the screen returns to the previous screen display.



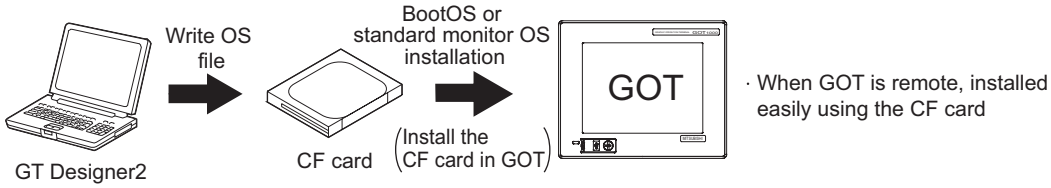
For details of cleaning method, refer to the following.

☞ Section 17.3 Cleaning Method

16. INSTALLATION OF CoreOS, BOOTOS AND STANDARD MONITOR OS

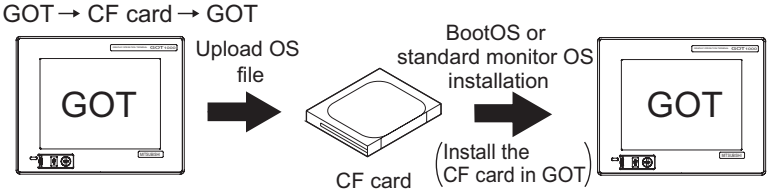
To execute the GOT utility, BootOS or Standard monitor OS has to be installed in the C drive (Flash memory).
This chapter explains the installation using GOT.

GT Designer2 → CF card → GOT



· When GOT is remote, installed easily using the CF card

GOT → CF card → GOT



· Install OS from GOT to GOT using the CF card

For details of the installation using GT Designer2, refer to the following.

☞ GT Designer2 Version ☐ Basic Operation/Data Transmission Manual (8. TRANSFERRING DATA)

Point CoreOS

Section 16.1 to 16.4 of this chapter describes BootOS and Standard monitor OS only.
For CoreOS, refer to the following.

☞ Section 16.5 CoreOS

16.1 BootOS and Standard Monitor OS Required for Installation

Under-mentioned BootOS and Standard monitor OS are necessary to execute utility.

OS name	Function overview		Storage location
BootOS	Requied for the control of GOT and the communication between PC and GOT. Installed at factory shipment. (BootOS can be installed from GT Designer2 or the CF card. When installed from GT Designer2 or the CF card, GOT is initialized to be the factory shipment status.)		Flash memory C: G1BOOT
Standard monitor OS	Standard monitor OS	Required for display and operation of the user-created screen and utility screen. Not installed in GOT at factory shipment. Install it from GT Designer2 or the CF card. At installation, select Mincho or Gothic for the 16-dot standard font.	Flash memory C:G1SYS
	System Screen Data		
	System Screen Information		
	TrueType numerical font		
	12-dot Standard Font (Gothic)		
	16-dot Standard Font (Mincho)		
	16-dot Standard Font (Gothic)		

16.2 Prior Preparations for Installing BootOS and Standard Monitor OS

For the installation using GOT, the CF card storing BootOS or Standard monitor OS is required.
For the method of writing BootOS and Standard monitor OS in the CF card, the following two methods are available.

(1) [To Memory Card] from GT Designer2

☞ GT Designer2 Version ☐ Basic Operation/Data Transfer Manual
(8.8 Transferring Data Using a Memory Card)

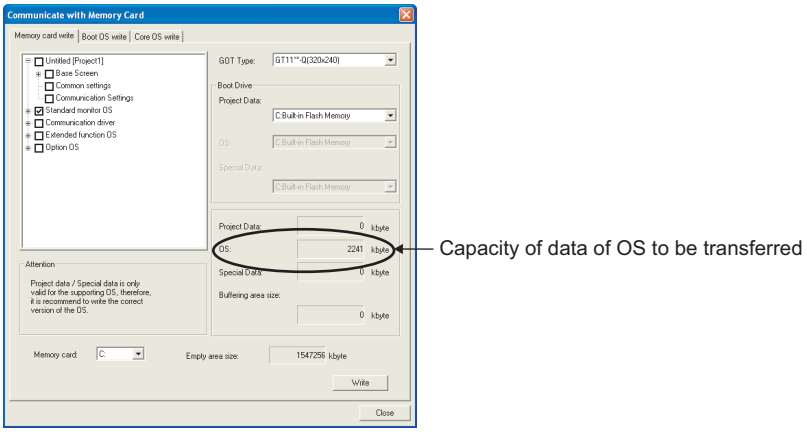
(2) Uploading from other GOT (BootOS or Standard monitor OS has been installed)

☞ Chapter 13 FILE DISPLAY AND COPY (PROGRAM/DATA CONTROL)

Point

Precautions on writing BootOS, Standard monitor OS in CF card

When writing BootOS, Standard monitor OS, etc. in the CF card, be sure to execute by the utility of other GOT or GT Designer2.
The installation is not executed properly with the CF card to which uploaded from the utility of GOT or copied by softwares other than GT Designer2.
Note the available capacity of the CF card.
The available capacity of BootOS and Standard monitor OS can be confirmed by [To Memory Card] of GT Designer2.



16.3 BootOS and Standard Monitor OS Installation Using CF Card

There are the following two types for the BootOS, Standard monitor OS installation using CF card.

(1) Installation method when the GOT is turned on
When the GOT is turned on, all the OS and project data stored in the memory card are transferred to the GOT.
This installation method is valid for the following cases.
- When the utility of GOT cannot be displayed
- When the standard monitor OS is not installed

(2) Installation method using the program/data control function (Utility)
By the operation of the utility, the OS and project data stored in the memory card are selected and transferred to GOT.

Point

Precautions on installing BootOS, Standard monitor OS

(1) When the project data exists in the CF card
After installation completion of BootOS and Standard monitor OS, the project data is downloaded. The [Boot Drive] setting of GT Designer2 is fixed to [C: Built-in Flash memory].

(2) When install both BootOS and Standard monitor OS
Always install BootOS first.
(If BootOS is installed, Flash memory in GOT is initialized to set in the conditions at factory shipment)
Install Standard monitor OS after completing the installation of BootOS.
(At factory shipment, the GOT is installed with BootOS. When the BootOS version up is not carried out, the BootOS installation is not required.)

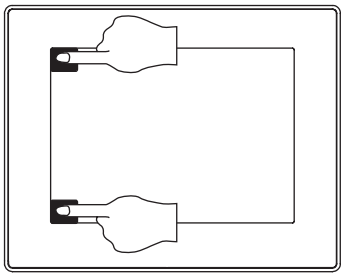
(3) The installation cannot be interrupted.
The followings should not be performed during the installation of BootOS or standard monitor OS.
The installation may fail, and GOT may not operate.
- Turning OFF the GOT power
- Pressing the reset button of GOT
- Turning OFF the CF card access switch
- Removing the CF card

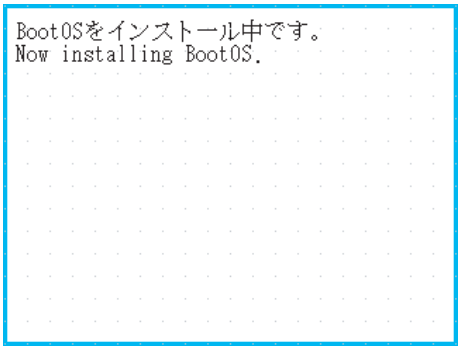
When GOT does not operate due to the failure of the installation, follow the procedures mentioned below.
- When the installation of BootOS is failed:
  Install CoreOS.
  ☞ Section 16.5.1 Installation method of CoreOS
- When the installation of standard monitor OS is failed:
  Install BootOS.
  ☞ Section 16.3.1 Installation method when the GOT is turned on

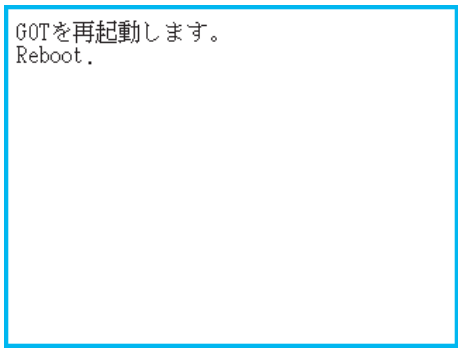
16.3.1 Installation method when the GOT is turned on

The displayed message is different depending on the installation condition of Standard monitor OS. When the screen requesting operation is displayed, operate the GOT according to the instructions on the screen.

1 Operation procedure







1. Power OFF GOT and CF card access switch. Insert the CF card in which BootOS, Standard monitor OS or project data is stored in the CF card interface of GOT.
2. Switch ON the CF card access switch of GOT.
3. Power ON the GOT touching the upper and lower left corners of the GOT screen.
4. BootOS and Standard monitor OS are installed in the built-in Flash memory.
5. The CF card access LED is lit during installation.
   Do not pull out the CF card or power off the GOT while the CF card access LED is lit.
6. GOT restarts automatically after installation is completed.
   (When Standard monitor OS is already installed, touch the OK button to reboot the GOT.)
7. After confirming that GOT restarted normally, switch OFF the CF card access switch of GOT.
8. Confirm the CF card access LED is extinguished, remove the CF card from the CF interface of GOT.

16.3.2 Installation method using the program/data control function (Utility)

For details of program/data control function, refer to the following.

☞ Chapter 13 FILE DISPLAY AND COPY (PROGRAM/DATA CONTROL)

Program/data control is a function to install OS files from the CF card to GOT by the Utility operation.

Point

Precautions on executing program/data control function

When execute program/data control function, Standard monitor OS has to be installed in GOT in advance. Thus, this function cannot be used for the initial installation of Standard monitor OS after purchasing GOT.
Install Standard monitor OS by the following two methods.

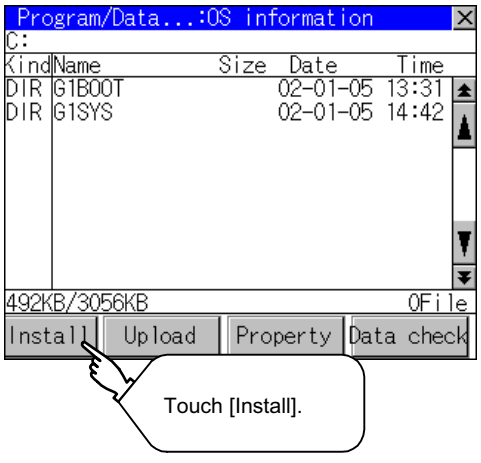
(1) Method using GT Designer2

☞ GT Designer2 Version□ Basic Operation/Data Transfer Manual

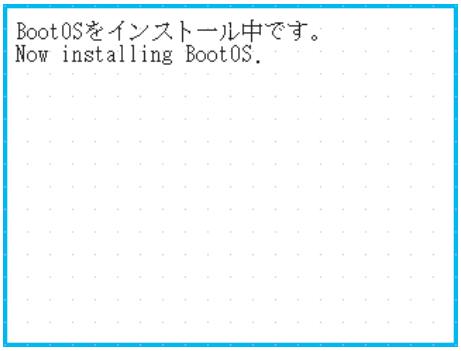
(2) Installation method when turning the GOT power on

☞ Section 16.3.1 Installation method when the GOT is turned on

1 Operation procedure

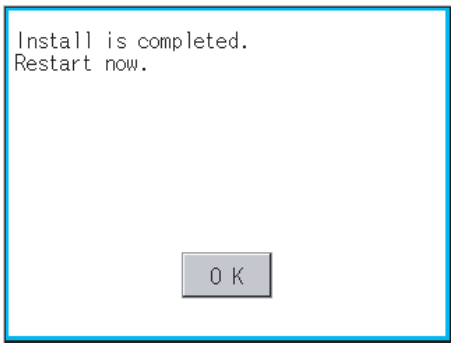


1. Power OFF the GOT. After CF card access LED is off, install the CF card in which BootOS, Standard monitor OS or project data is stored in the CF card interface of GOT.
2. Switch ON the CF card access switch of GOT.
3. Display the program/data control function screen (Utility) on the GOT, and install BootOS, Standard monitor OS from the CF card to GOT.



4 The CF card access LED is lit during install execution.

5 Do not pull out the CF card, power OFF, or reset the GOT while the CF card access card is lit.



6 After the installation is finished, the dialog box shown on the left is displayed.

7 Touch the OK button to reboot the GOT.

8 After confirming that GOT restarted normally, switch OFF the CF card access switch of GOT.

9 Confirm the CF card access LED is extinguished, remove the CF card from the CF card interface of GOT.

16.4 When Installing the Different Version of BootOS, Standatd Monitor OS

(1) BootOS installation

When installing BootOS, GOT compares the version of the BootOS to be installed with the version of BootOS which is already installed.

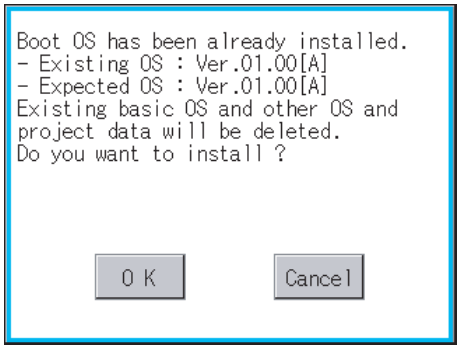
When the BootOS to be installed has the older major version, GOT displays the installation disapproving message to cancel the installtion so that the older version may not be written.
(If the BootOS is installed from GT Designer2, the message is displayed on the PC screen. If the BootOS is installed from the CF card, the message is displayed on the GOT screen.)

If the following message is displayed at the GOT, touch the [OK] button to stop installing.

Boot OS has been already installed.
- Existing OS : Ver.01.02[C]
- Expected OS : Ver.01.01[B]
Because of version down, GOT aborts installing.
OK

<The GOT screen when the BootOS is installed from the CF card>

Even when the version of the BootOS to be installed has the same or later version, the version information and the dialog for selecting continue/not continue will be displayed.


Boot OS has been already installed.
- Existing OS : Ver.01.00[A]
- Expected OS : Ver.01.00[A]
Existing basic OS and other OS and project data will be deleted.
Do you want to install ?
OK
Cancel

<The GOT screen when the BootOS is installed from the CF card>

If touch [OK] button, installation is executed.

If touch [Cancel] button, installation is canceled.

(2) Standard monitor OS installation

Match the version of each OS file when installing Standard monitor OS.

Standard monitor OS cannot be installed if the version of each OS file does not match.

When the installation process is discontinued.

Standard monitor OS	:	1.	O.	O
Communication driver	:	2.	O.	O
Option OS	:	2.	O.	O

Please match the number.

When the installation process is normally executed.

Standard monitor OS	:	2.	O.	O
Communication driver	:	2.	O.	O
Option OS	:	2.	O.	O

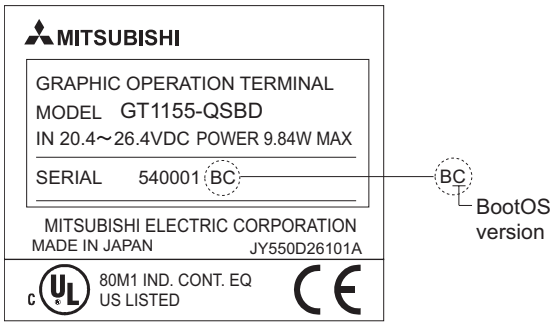
Point

Checking method of BootOS, Standard monitor OS version

1. Check the version of BootOS or Standard monitor OS installed in GOT at [OS information] of the utility.
   Refer to the following for details.

   ☞ Section 13.2 OS Information

2. Check the version of BootOS installed in GOT at product shipment on the rating plate on GOT rear face.



16.5 CoreOS

Install CoreOS only if the GOT is not in its factory-shipped condition, even if BootOS is installed.
Normally, installation is not required.

Point

Precautions when installing CoreOS.

The installation cannot be interrupted.

The followings should not be performed during the installation of CoreOS.
GOT may not operate.

- Turning OFF the GOT power
- Pressing the reset button of GOT
- Turning ON the CF card access switch
- Removing the CF card

If GOT does not operate, please consult your nearest sales office or FA Center.

If GOT does not recover after CoreOS is installed, there may be a hardware problem.
Please consult your nearest sales office or FA Center.

16.5.1 Installation method of CoreOS

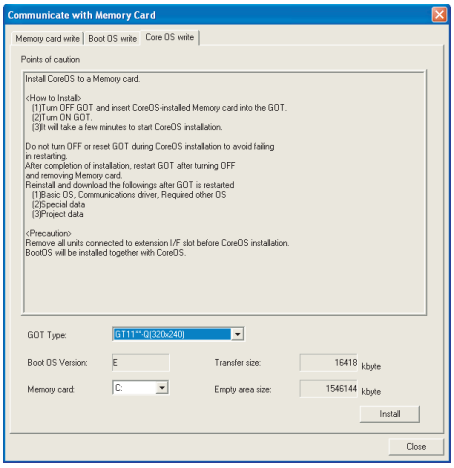
1 Before installing CoreOS.

(1) Installation method
CoreOS can be installed only using the memory card.
The installation via USB, RS-232 or Ethernet is not available.

(2) CF card to be used
CF card of 32MB or more is required.

(3) BootOS
By installing CoreOS, BootOS is also installed with its latest version automatically.
(No operation is required to the user.)

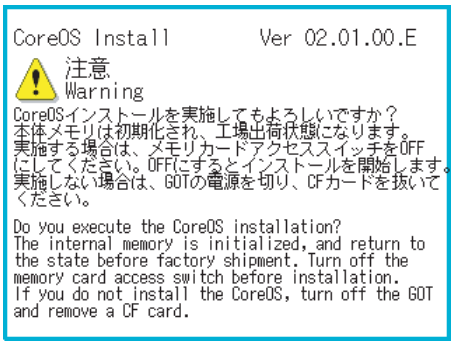
2 Installation method of CoreOS


Communicate with Memory Card
Memory card write
Boot OS write
Core OS write
Points of caution
Install CoreOS to a Memory card.
<How to Install>
(1)Turn OFF GOT and insert CoreOS-installed Memory card into the GOT.
(2)Turn ON GOT.
(3)It will take a few minutes to start CoreOS installation.
Do not turn OFF or reset GOT during CoreOS installation to avoid failing in restarting.
After completion of installation, restart GOT after turning OFF and removing Memory card.
Reinstall and download the followings after GOT is restarted
(1)Basic OS, Communications driver, Required other OS
(2)Special data
(3)Project data
<Precaution>
Remove all units connected to extension I/F slot before CoreOS installation.
BootOS will be installed together with CoreOS.
GOT Type:
GT11**Q(320x240)
Boot OS Version:
E
Transfer size:
16418 kbyte
Memory card:
C:
Empty area size:
1546144 kbyte
Install
Close

1 Write CoreOS from GT Designer2 to the CF card
For details on the operation method of GT Designer2, refer to the following manual.

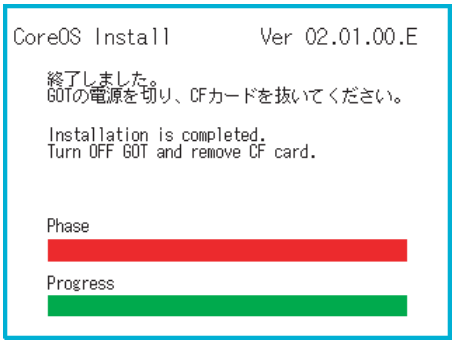
☞ GT Designer2 Version □ Basic Operation/Data Transfer Manual (8. TRANSFERRING DATA)

2 Check that the power of GOT main unit is OFF, and then mount the CF card to GOT. After mounting it, turn ON the CF card access switch.


CoreOS Install Ver 02.01.00.E
注意
Warning
CoreOSインストールを実施してもよろしいですか？
本体メモリは初期化され、工場出荷状態になります。
実施する場合は、メモリカードアクセススイッチをOFF にしてください。OFFにすると インストールを開始します。
実施しない場合は、GOTの電源を切り、CFカードを抜いてください。
Do you execute the CoreOS installation?
The internal memory is initialized, and return to the state before factory shipment. Turn off the memory card access switch before installation.
If you do not install the CoreOS, turn off the GOT and remove a CF card.

3 Turn ON the GOT power
After the power is turned on, CoreOS installation execution screen is automatically displayed after a brief interval.

4 After the CF card access switch is turned off, the installation of CoreOS is started.



5 When the installation is completed, the dialogue box shown on the left is displayed. Check that the message is displayed, and turn the GOT power OFF.
(When the installation is completed, the power LED blinks.)

6 Remove the CF card after turning the power OFF.

7 If the power is turned on again, the screen shown on the left is displayed.
(The GOT goes into its factory shipped conditon.)
As necessary, install each OS (Standard monitor OS, communication driver, etc.) or download a project data.
For the installation method of each OS or the download method of project data, refer to the following manual.

☞ GT Designer2 Version □ Basic Operation/Data Transfer Manual (8. TRANSFERRING DATA)

16.5.2 When CoreOS cannot be installed

When CoreOS cannot be installed, check the following contents.
When CoreOS cannot be installed even after the following contents are checked, there may be a hardware problem.
Please consult your nearest sales office or FA Center.

Description	Action
The installation of CoreOS is not executed after the CF card is insreted to GOT.	• Check that the CF card access switch of GOT is ON. If it is OFF, turn it ON. • (2) Memory card write from GT Designer2 may not be normally completed. Execute memory card write from GT Designer2 again.
The following message is displayed on GOT. "GOT error. Contact your local sales office."	GOT main unit is breakdown. Please consult your nearest sales office or FA Center.
The following message is displayed on GOT. "CF card error. Installation will be canceled. Check whether the CF card can be used."	CF card is broken. • Format the CF card and execute the installation again. • Replace the CF card.

17. MAINTENANCE AND INSPECTION

STARTUP AND MAINTENANCE PRECAUTIONS

DANGER

- When power is on, do not touch the terminals.
  Doing so can cause an electric shock or malfunction.
- Connect the battery correctly.
  Do not discharge, disassemble, heat, short, solder or throw the battery into the fire.
  Incorrect handling may cause the battery to generate heat, burst or take fire, resulting in injuries or fires.
- Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases.
  Not switching the power off in all phases can cause a unit failure or malfunction.
  Undertightening can cause a short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

STARTUP AND MAINTENANCE PRECAUTIONS

CAUTION

- Do not disassemble or modify the unit.
  Doing so can cause a failure, malfunction, injury or fire.
- Do not touch the conductive and electronic parts of the unit directly.
  Doing so can cause a unit malfunction or failure.
- The cables connected to the unit must be run in ducts or clamped.
  Not doing so can cause the unit or cable to be damaged due to the dangling, motion or accidental pulling of the cables or can cause a malfunction due to a cable connection fault.
- When unplugging the cable connected to the unit, do not hold and pull the cable portion.
  Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.
- Do not drop or apply any impact to the battery.
  If any impact has been applied, discard the battery and never use it.
  The battery may be damaged by the drop or impact.
- Before touching the unit, always touch grounded metal, etc. to discharge static electricity from human body, etc.
  Not doing so can cause the unit to fail or malfunction.

DISPOSAL PRECAUTIONS

CAUTION

- When disposing of the product, handle it as industrial waste.

The GOT does not include consumable components that will cause the shorten life.
However, the battery, liquid crystal screen and backlight have each life length.
It is recommended to replace the battery periodically.
(For the replacement of the liquid crystal screen and backlight, please consult your nearest sales office or FA center.)
For the battery life, refer to the following.

☞ Section 3.3 Power Supply Specifications

For the life of the LCD screen or backlight, refer to the following.

☞ Section 3.2 Performance Specifications

17.1 Daily Inspection

Daily inspection items

No.	Inspection Item		Inspection Method	Criterion	Action
1	GOT mounting status		Check for loose mounting screws.	Securely mounted	Retighten screws within the specified torque range
2	Connection status	Loose terminal screws	Retighten screws with screwdriver	Not loose	Retighten terminal screws
		Proximate solderless terminals	Visual check	Proper intervals	Correct
		Loose connectors	Visual check	Not loose	Retighten connector fixing screws
3	Usage status	Dirt on protection sheet	Visual check	Not outstanding	Replace with new one
		Foreign material attachment	Visual check	No foreign matter sticking	Remove clean

Refer to the following for the model names of the protection sheet or the replacement procedure.

☞ Section 8.5 Protective Sheet

17.2 Periodic Inspection

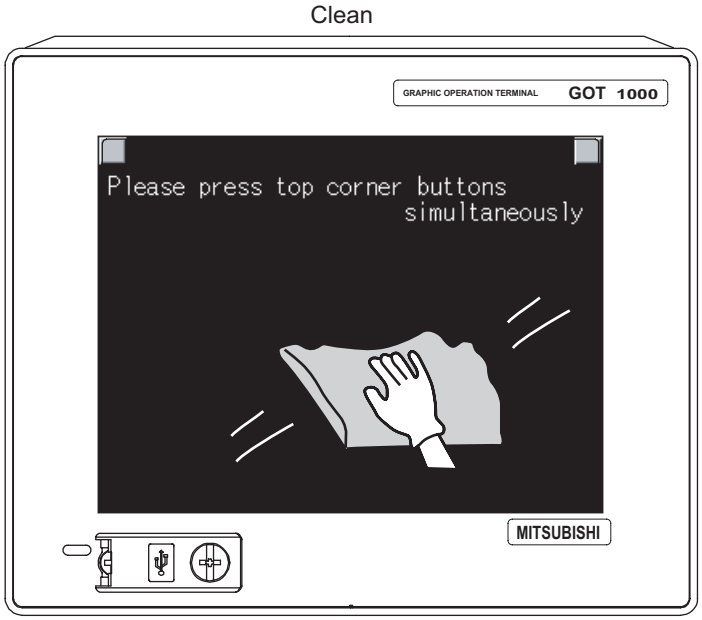
Yearly or half-yearly inspection items
The following inspection should also be performed when equipment has been moved or modified or the wiring changed.

No.	Inspection Item		Inspection Method	Criterion		Action
1	Surrounding environment	Ambient temperature	Make measurement with thermometer or hygrometer Measure corrosive gas	Display section	0 to 50°C	For use in control panel, temperature inside control panel is ambient temperature
				Other portions	0 to 55°C	
		Ambient humidity		10 to 90%RH		
		Atmosphere		No corrosive gas		
2	Power supply voltage check		24VDC Measure voltage across terminals.	20.4 to 26.4VDC		Change supply power
3	Mounting status	Looseness	Move module	Should be mounted firmly		Retighten screws
		Dirt, foreign matter	Visual check	No dirt, foreign matter sticking		Remove, clean
4	Connection status	Loose terminal screws	Retighten screws with screwdriver	Not loose		Retighten terminal screws
		Proximate solderless terminals	Visual check	Proper intervals		Correct
		Loose connectors	Visual check	Not loose		Retighten connector fixing screws
5	Battery		Check the system alarm (error code: 500) report on the Alarm Information screen (Section 13.4 Alarm Information).	(Preventive maintenance)		Replace with new battery when the current battery has reached the specified life span, even if battery voltage is not displayed.

17.3 Cleaning Method

Use the GOT always in a clean condition.
To clean the GOT, wipe the dirty part with a soft cloth using neutral detergent.
For the display operation of the [Clean] screen, refer to the following.

☞Chapter 15 CLEANING OF DISPLAY SECTION (CLEAN)



Point

Precautions for cleaning

Do not use chemicals such as thinner, organic solvents and strong acids, since they may cause the protective sheet to be deformed or the dissolvable paint on the surface to peel off.
In addition, do not use spray solvents since they may cause the electrical failure of the GOT and peripheral devices.

17.4 Battery Voltage Low Detection and Battery Replacement

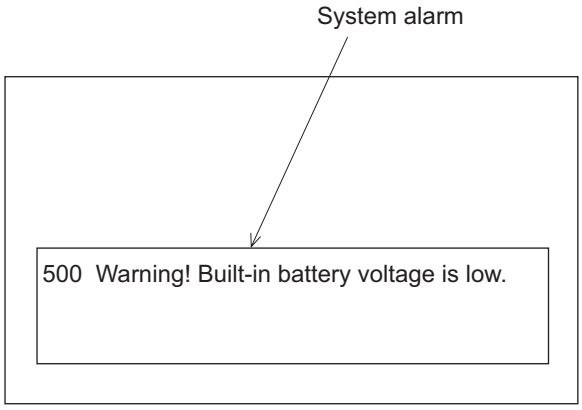
The battery is used for backing up the clock data, alarm history or recipe data.
It is recommended that you replace battery periodically.
Refer to the following for the replacement procedure.

☞ Section 8.4 Battery

The battery voltage low detection can be confirmed by the utility screen and system alarm.
Refer to the following for details of the battery status display by the utility screen.

☞ Chapter 12 CLOCK SETTINGS AND BATTERY STATUS DISPLAY (TIME SETTING AND DISPLAY)

By using system alarm, the message that notifies the battery voltage has decreased can be displayed at the battery voltage low on the screen of the GOT.



Refer to the following for details of the system alarm display.

☞ GT Designer2 Version□ Screen Design Manual (8. ALARM)

Point

Battery replacement timing

When detecting voltage low, replace the battery immediately.
Data can be saved for approximately a month after the battery voltage low detection and cannot be saved after that.
If it exceeds a month from the voltage low detection to battery replacement, the clock data or D-drive (Internal SRAM) data may become indefinite.
Adjust the clock and format the D drive (Internal SRAM).

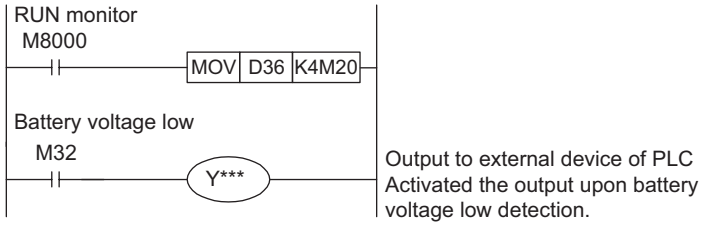
Hint!

Example of alarm output to external device (lamp, buzzer, etc.)

The following describes an example of outputting the battery voltage low signal from a FX series PLC to an external device with system information.

Condition: The Write Device is "D20" and all data is used (the Select All button is clicked on the setting screen of GT Designer2) for the system information assignment.

D36 b12: Battery voltage low (System Signal 2-2)
Turned on upon a battery voltage drop.
Used as shown below in the sequence program.



"*" indicates the output number at which the external device is connected.

For details of system information, refer to the following.

☞ GT Designer2 Version□ Screen Design Manual
Section 3.6 System Information Setting

17.5 Backlight Shutoff Detection

The backlight is built into GOT for the liquid crystal display.
When GOT detects backlight shutoff, the POWER LED blinks green/orange alternately.
The brightness of the backlight decreases with the lapse of usage period. When backlight shutoff is detected or the display becomes unclear, replace the backlight.
For replacement of the backlight, contact your nearest sales office or FA Center.

(1) Life of backlight
The usable duration of backlight can be extended by setting to "Screen saving backlight off" in the utility of GOT (GOT set up).
Refer to the following for details.

☞ Chapter 11 DISPLAY AND OPERATION SETTINGS (GOT SET UP)

17.5.1 Backlight shutoff detection and external alarm

When the GOT detects a backlight shutoff, the system information set with GT Designer2 is turned on.
You can issue a backlight shutoff of the GOT from the PLC to external devices (such as the lamp or buzzer), using system information.
To avoid any screen touch operation by the user who misunderstands it is in screen saving mode, install an external alarm and interlock the loads that would cause danger.
For details of the system information, refer to the following.

☞ GT Designer2 Version□ Screen Design Manual
Section 3.6 System Information Setting

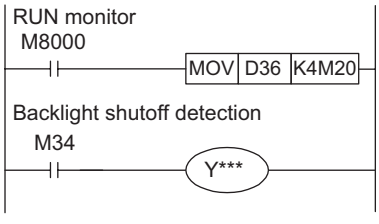
Hint!

Example of alarm output to external devices (such as lamp or buzzer)

The following provides an example of outputting the backlight shutoff detection signal from a FX Series PLC to an external device, using system information.

Condition: The Written Device is "D20" and all data is used (the Select All button is clicked on the setting screen of GT Designer2) for the system information assignment.

D36 b14: D36b14: Backlight shutoff detection (System Signal 2-2)
Turned on upon a backlight shutoff.
Used as shown below in the sequence program.



"*" indicates the output number at which the external device is connected.

Point

Precautions for the backlight shutoff status

In the backlight shutoff status, the touch key operates.
Early replacement of backlight is recommended.

18. ERROR MESSAGE AND SYSTEM ALARM

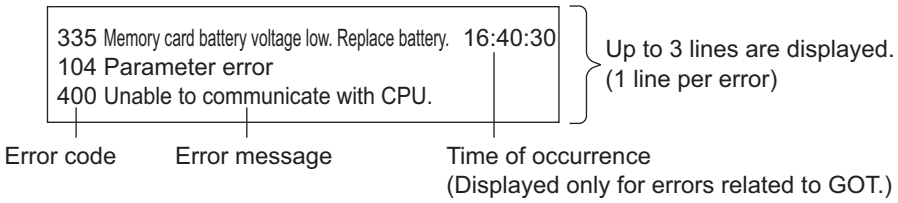
This chapter describes the error messages and system alarm displayed in the GOT.
As the error code and error message displaying functions when an error occurs at the GOT or Controller, the system alarm is available.
The error code can also be confirmed in the error code storage area of the system information.
For details of system alarm and system information, refer to the following.

☞ GT Designer2 Version□ Screen Design Manual

18.1 Error Contents Display

This section describes how to identify the error code and system alarm displayed on the monitor screen by the system alarm display function and the reference material.

(1) Displaying format on monitor screen ... Displayed in user setting position
The system alarm is displayed together with an error code, its error message and occurrence time.
The displayed error code and error message are registered to the GOT in advance and need not to be prepared by the user.


335 Memory card battery voltage low. Replace battery. 16:40:30
104 Parameter error
400 Unable to communicate with CPU.
Up to 3 lines are displayed.
(1 line per error)
Error code
Error message
Time of occurrence
(Displayed only for errors related to GOT.)

Display priority
The alarm is displayed in the following priority if the displaying range is one or two lines.
(1) GOT error :The error in the GOT is displayed as an alarm.
(2) CPU error :The error in the PLC CPU is displayed as an alarm.
(3) Network error :The error in the network is displayed as an alarm.
Alarms with smaller priority cannot be displayed if system alarms overflow the displaying range.
As well, the error code, error message or time is not displayed if the displayed message overflows each line in the displaying range.

(2) Error code and reference manual

Error source	Error code	Contents	Reference
CPU	0 to 99 (Value of D9008)	Error code of CPU (for ACPU)	User's manual of the ACPU connected with GOT
	100 to 299	Error code of CPU • FX PLC*1 • Third party PLC • Temperature controller (OMRON temperature controller only)	User's manual of the FXCPU to which GOT is connected If a third-party PLC is connected, take actions referring to the error message.
GOT	300 to 399	Error code of the GOT main unit function	Section 18.2
	400 to 499	Error code of the GOT communication function	
	500 to 699	Error code of the GOT main unit function	
CPU	1000 to 10000 (Value of SD0)	Error code of CPU (for QCPU, QnACPU)	User's manual of the QCPU and QnACPU connected with GOT
Servo amplifier*2	20016 to 20237	Error code of servo amplifier	User's manual of the servo amplifier connected to GOT

*1 The assigned error code for FXPLC is 100 to 109, which displays the status of M8060 to M8069.
(Example) When the error code (100) error occurs, correct the error according to the M8060 description.

*2 The error code displayed on GOT is calculated by changing the error code displayed on the servo amplifier to a decimal number and adding "20000" to it.
For this reason, to refer to the manual of the servo amplifier based on the error code displayed upon a system alarm caused to the GOT, subtract the error code by "20000" and convert the lower three digits into a hexadecimal.
(Example: If the system alarm displayed at GOT is "20144," the error code of the servo amplifier is: 20144 - 20000 = 144 (BIN) = 90 (HEX).

18.2 List of Error Message/System Alarm

The system alarm detected with GOT is shown below.

Error code	Error message	Action
303	Set monitor points too large. Decrease setting points.	The number of objects of the screen to be displayed is too large and the system work area cannot be secured. Decrease the number of objects from the displayed screen. For the number of maximum objects for 1 screen, refer to the following. ☞ GT Designer2 Version□ Screen Design Manual
304	Set trigger points too large. Decrease setting points.	When cycle is / ON and when cycle is / OFF the number of objects used exceeds 100. Decrease the number of objects.
306	No project data. Download screen data.	The project data is not downloaded to the built-in flash memory. Download the project data to the built-in flash memory.
307	Monitor device not set	The monitor device of the object is not set. Set the monitor device of the object.
308	No comment data. Download comment.	The comment file does not exist. Create the comment file and download to GOT.
309	Device reading error. Correct device.	The error occurred when reading a continuous device. Correct the device.
310	Project data does not exist or out of range.	1. Specified base screen / window screen does not exist in the project data. 2. Specified base screen / window screen is out of the permissible area. Specify the existing base screen / window screen.
311	No. of alarm has exceeded upper limit. Delete restored alarm.	The number of alarm histories that can be observed by the alarm history display function has exceeded the maximum points (1024 points). Delete the restored history to decrease the number of alarm histories.
312	No. of sampling has exceeded upper limit. Delete collected data.	The collection frequency exceeded the upper limit when "Store Memory" and "Accumulate/Average" were set in the scatter graph. 1. Approve "Clear trigger" setup in the scatter graph. 2. Set the "Operation at frequency over time" and "initialize and continue" in scatter graph.
315	Device writing error. Correct device.	Error occurred while writing in the device. Correct the device.
316	Cannot display or input operation value. Review expression.	In indirect specification of comment/parts number, the data operation result exceeded the range in which device type can be expressed. Review the data operational expression, in order not exceeding the range in which the device type can be expressed.
320	Specified object does not exist or out of range.	The part file does not exist. Create the part file and download to GOT.
321	Station No. for monitor device is wrong	Check the monitor target station No. of the project data.

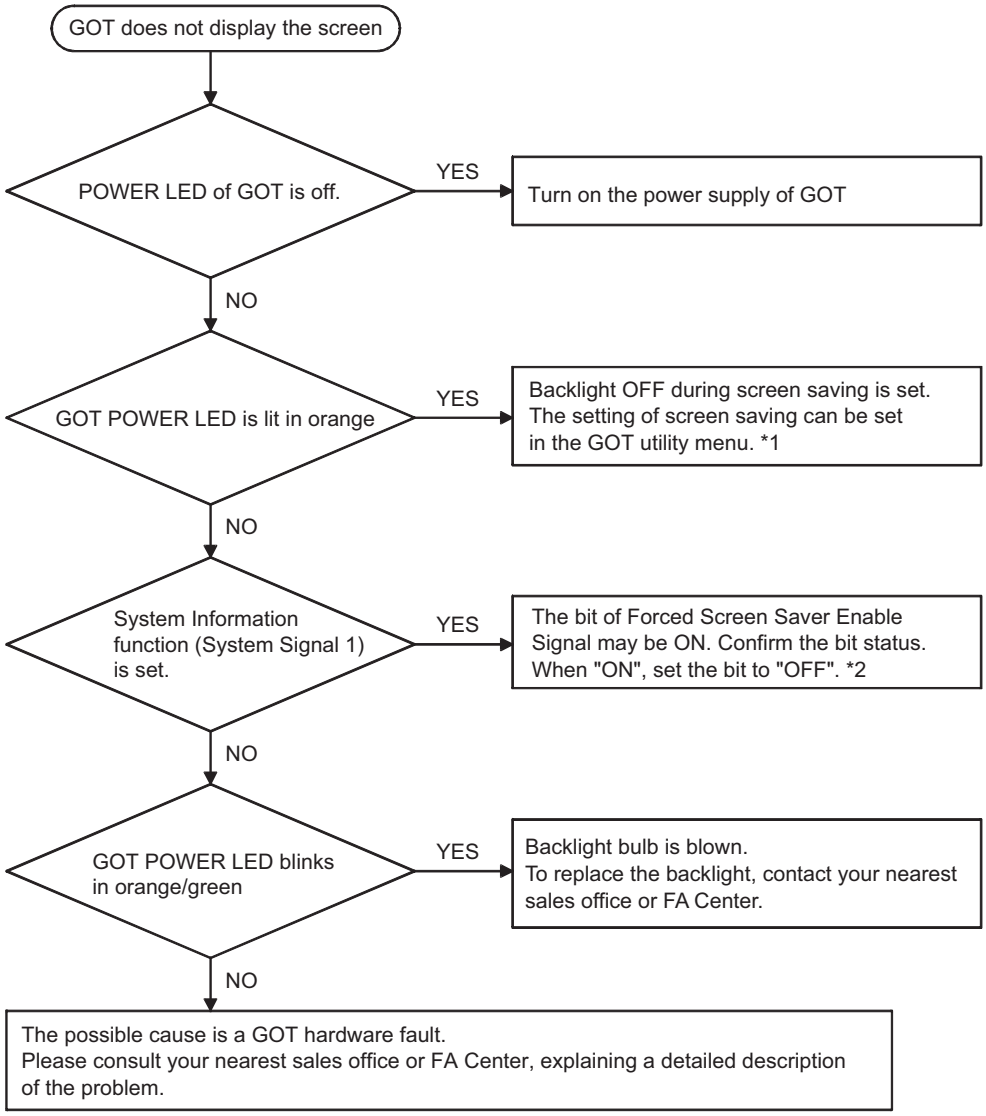
Error code	Error message	Action
322	Dedicated device is out of range. Confirm device range.	The monitored device No. is set out of the permissible range of the targeted PLC CPU, or the data length for a device dedicated to 32 bits is set other than 32 bits. 1. Set the device within the range that can be monitored by the monitored PLC CPU and parameter settings. 2. AB: L device/ S7-200: HC device/ OMPON temperature controller: Set the data length of C0, C1 and C3 devices to 32 bits.
330	Insufficient memory media capacity. Confirm M-card capacity.	Available memory of the memory card is insufficient. Check the available memory of the memory card on the Drive Information of GT Designer2. ☞ GT Designer2 Version□ Basic Operation/Data Transfer Manual Section8.4 Obtaining the Drive Information [GOT to PC]
331	Memory card not installed or M-CARD switched OFF	The memory card is uninstalled or access switch is OFF in drive. 1. Install the memory card in the specified drive. 2. Turn ON the access switch.
332	Memory media is not formatted.	Memory card is not formatted or formatted incorrectly. Format the memory card.
334	Memory media error. Replace memory media.	Memory card is faulty. Replace the memory card.
345	BCD/BIN conversion error. Correct data	The BCD/BIN conversion disabled data is being displayed/input. 1. Change the device data to be displayed to the BCD value. 2. Correct the input value to the 4 digits integer.
351	Recipe file error. Confirm content of recipe file.	The contents of the recipe file are not normal. 1. Confirm the contents of the recipe files in the memory card. 2. Reboot the GOT after deleting the recipe file in the memory card (format).
352	Recipe file make error. Reboot GOT after inserting memory card.	Failed to generate recipe file. Reboot the GOT after installing the memory card.
353	Unable to write Recipe file. Confirm memory card is inserted.	Failed to write in the recipe file. 1. Confirm the contents of the memory card. 2. Do not pull out the memory card while recipe is operating.
354	Recipe file write error	Error occurred while writing in the recipe file. Do not unplug the memory card while recipe is operating.
355	Recipe file read error	Error occurred while writing in the recipe file. 1. Do not unplug the memory card while recipe is operating. 2. Confirm the contents (device value) of the recipe file in the memory card.
356	File system error occurred in PLC. Confirm file register.	Error occurred in the specified file register when executing the recipe function by specifying the file register name. 1. Execute the recipe function again after confirming the file register name. 2. Execute the recipe function again after formatting the PC memory in the specified PLC CPU drive with GX Developer.

Error code	Error message	Action
357	Error in specified PLC drive. Confirm PLC drive.	When executing the recipe function specifying the file register name, error occurred in PLC CPU drive. 1. Execute the recipe function again after confirming the specified PLC CPU drive. 2. Execute the recipe function again after formatting the PC memory in the specified PLC CPU drive with GX Developer.
358	PLC file access failure. Confirm PLC drive.	When the recipe function is executed specifying the file register name, PLC CPU file register could not be accessed. Execute the recipe function again after confirming the specified PLC CPU drive / file register name. (When you specify drive 0, execute the recipe function again after changing to other drives.)
359	Processing from another peripheral device. Execute it after.	When the recipe function is executed specifying the file register name, other peripherals carry out the process to the file register. Wait until the processing of other peripherals end, and execute the recipe function again.
360	0 divisor division error. Confirm operation expression.	Division 0 was generated by the data operational expression. Review the data operational expression so that the divisor should not become 0.
370	Upper and lower limit value error. Confirm value setting.	The setting of lower/upper limit value is [Upper limit < Lower limit]. Correct the setting so as to be "Upper limit ≥ Lower limit".
402	Communication timeout. Confirm communication pathway or modules.	The time-out error occurred during communication. 1. Confirm the cable omission and PLC status. 2. Put COM instruction when A, QnA or QCPU is connected and the PLC scanning is long.
403	SIO status error. Confirm communication pathway or modules.	Either of the overrun error, parity bit error or flaming error was generated when the RS-422 / RS-232 communication was received. Confirm the cable omission, status of the PLC, and the transmission speed of the computer link.
406	Specified station access is out of range. Confirm station no.	1. Station numbers other than master/local station are specified at the CC-Link connection (via G4). 2. Accessed PLC CPUs other than QCPU. Confirm the station number of the monitor screen data.
410	Cannot perform operation because of PLC run mode. stop the PLC.	The operation, which could not be performed during RUN of PLC CPU, was performed. Stop the PLC CPU.
411	Memory cassette is write-protected. Check the memory cassette.	The memory cassette installed in PLC CPU is in the state protected with EPROM or E^2PROM. Confirm the memory cassette installed in PLC CPU.
412	Cannot read/write device protected by keyword. Remove key word.	The key word is set in PLC CPU. Cancel the key word.
448	PLC cannot handle as requested. Correct devices.	The file register of QnACPU and the device beyond the outside range of buffer memory was specified. Correct the monitor device by setting file register of PLC CPU.

Error code	Error message	Action
480	Communication channel not set. Set channel number on Utility.	One or more channel for PLC and host (microcomputer) connection (Ch.1 to 5) is not allocated by GT Designer2 or utility. Set the channel by GT Designer2 or utility.
500	Warning! Built-in battery voltage is low.	The voltage of the GOT built-in battery is decreased. Replace the GOT built-in battery.
510	Clock data input out of range	The value that is input as clock data is out of the input enabled range. In this case, the input value is not accepted. Confirm the input range of the value to be input as clock data, and input the proper value again.
522	Unnecessary file deleted to create new file.	Cancelled the file of different contents and created a new file. Note that the old file is cancelled and the new file is created if the file of the same name with different contents exists when creating files.
524	Device writing error. Correct device.	When writing in the device, error occurred. Correct the device.
525	Unable to read/write alarm log files under different projects.	Unable to read the alarm log file saved by the different project. Confirm where to store the alarm log file and alarm log file.
535	Cannot open image file.	• No CF card is installed in the drive or the access switch is turned on. 1. Install a recording medium in the specified drive. 2. Turn the access switch on. • The specified file is not found in the card. 3. Add the image file or change the image file name to a correct one.
536	Image file error or invalid file format.	There is an error in the image file data or the image file format is not supported. Change to the correct image file.
550	Invalid key code	The key code input execution trigger was ON with the non-target key code set in the key code storage device. Confirm the key code supported by the object where error occurs.
570	Recipe device points too large.	The number of the set points of the recipe device exceeds the specified range. Put the number of the set points of the recipe device within the specified range.
571	Capacity shortage of user memory (RAM)	There is no empty area/space in D drive. If the alarm log file located in the D drive needs to be backed up, copy it to the CF card with the utility and then format the D drive. If the recipe function is used to read devices, format the D drive and then read again to create the recipe data.

18.3 Troubleshooting for Monitoring

This section describes the countermeasures when GOT does not display the monitor screen.


GOT does not display the screen
POWER LED of GOT is off.
YES
Turn on the power supply of GOT
NO
GOT POWER LED is lit in orange
YES
Backlight OFF during screen saving is set.
The setting of screen saving can be set
in the GOT utility menu. *1
NO
System Information
function (System Signal 1)
is set.
YES
The bit of Forced Screen Saver Enable
Signal may be ON. Confirm the bit status.
When "ON", set the bit to "OFF". *2
NO
GOT POWER LED blinks
in orange/green
YES
Backlight bulb is blown.
To replace the backlight, contact your nearest
sales office or FA Center.
NO
The possible cause is a GOT hardware fault.
Please consult your nearest sales office or FA Center, explaining a detailed description
of the problem.

*1 For utility menu, refer to the following.

☞ Chapter 11 DISPLAY AND OPERATION SETTINGS (GOT SET UP)

*2 For the details of the forced screen saver enable signal, refer to the following.

☞ GT Designer2 Version□ Screen Design Manual

Section 3.6 System Information Setting

18.4 Power-Off during GOT Start-Up

Do not turn the GOT power OFF during the start-up right after turning the GOT power on or during the restart-up after transferring each OS or project data and changing the setting on the utility screen.
“When “Booting” or “Booting project data” is displayed on the screen, GOT is in start-up mode or restart-up mode.”

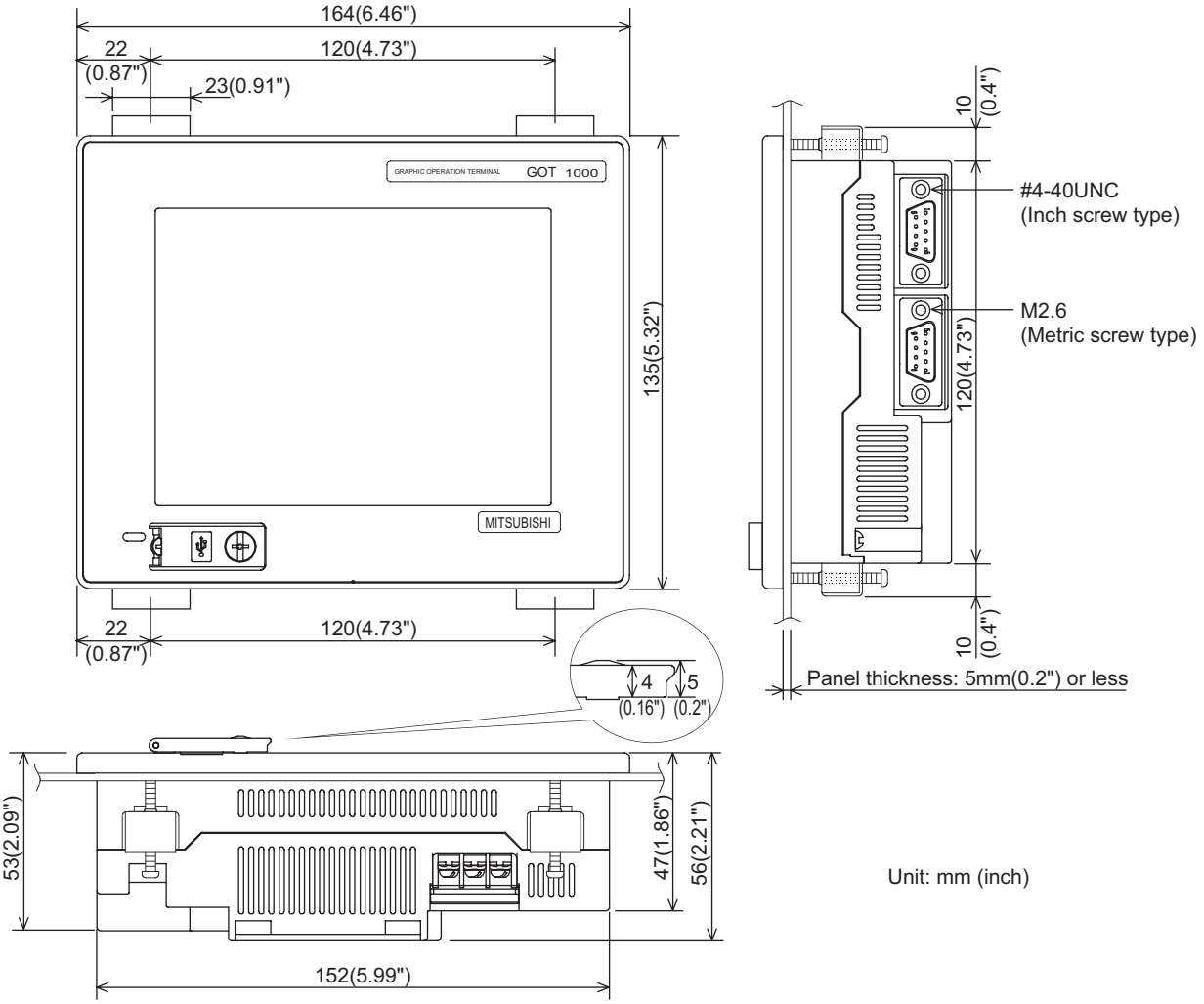
<When GOT standard monitor OS is V 01. 02. 01 or before>
When the GOT power in turned OFF, the setting may return to the factory-shipped default when the GOT power turned on next time.
If the power is turned off due to power failure or others, install the OS or download the project data again.

<When GOT standard monitor OS is V 01. 02. 02 or later>
Even if the power is turned off during the start-up, GOT operates in the condition that the OS and project data before the power OFF are stored when turning the GOT power on.

APPENDICES

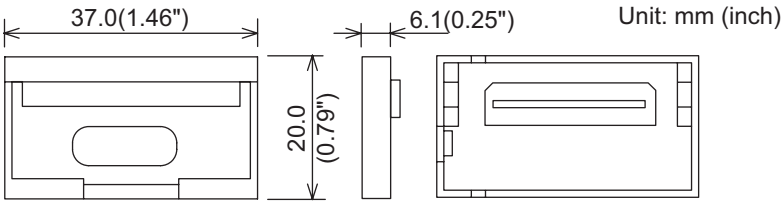
Appendix 1 External Dimensions

External dimensions of GT11□□

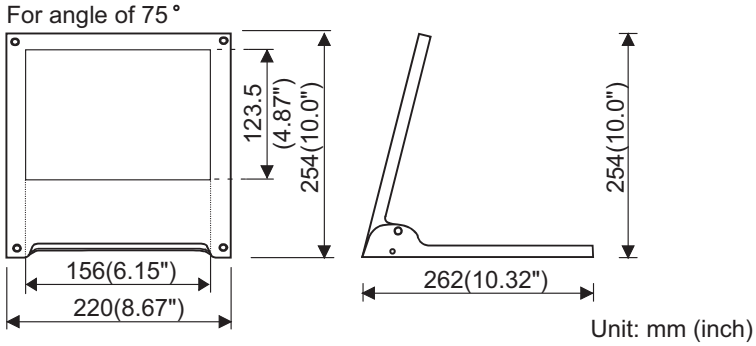


Unit: mm (inch)

External dimensions of memory board



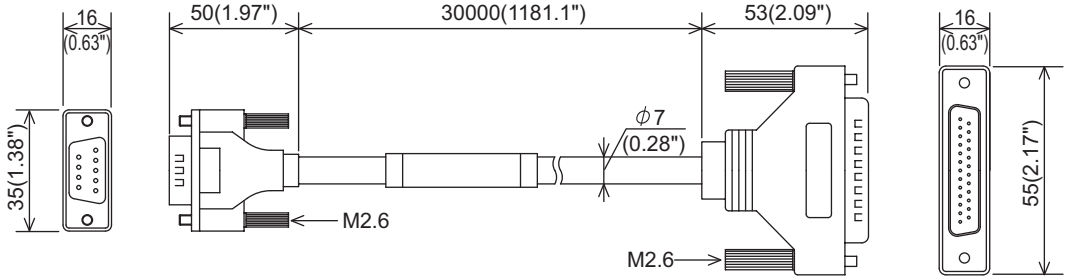
External dimensions of stand



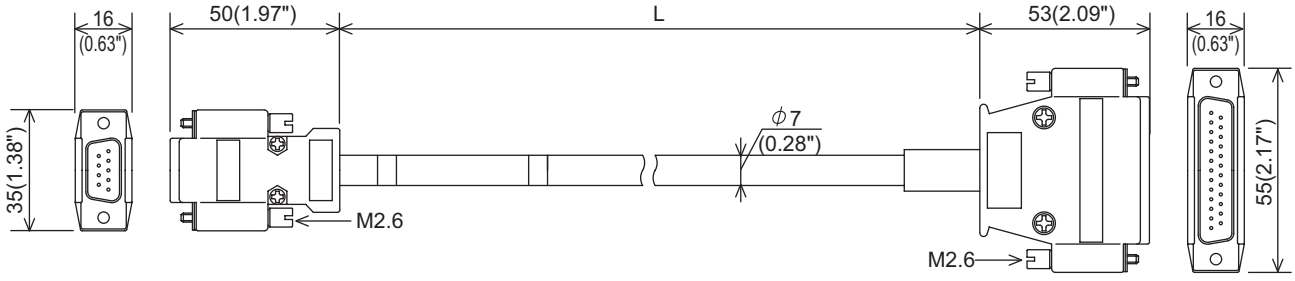
External dimensions of communication cable

GT01-C30R4-25P

Unit: mm (inch)

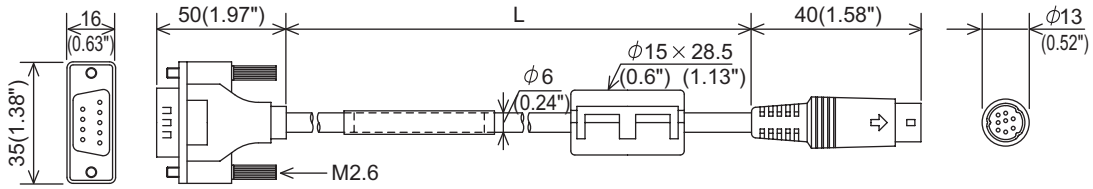


GT01-C □□□ R4-25P



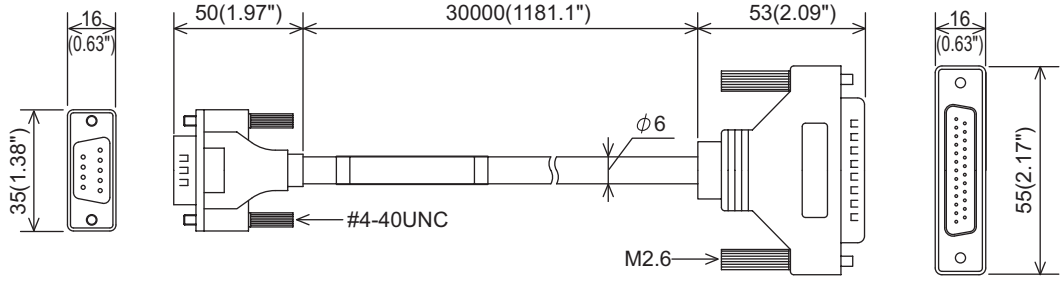
Value of □□□	Length L mm (inch)
100	10000 (393.7")
200	20000 (787.4")
300	30000 (1181.1")

GT01-C □□□ R4-8P

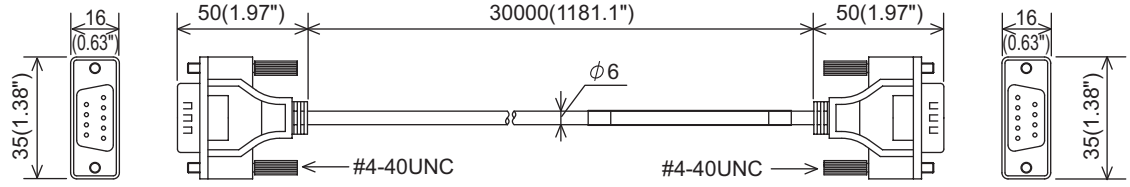


Value of □□□	Length L mm (inch)
10	1000 (39.37")
30	3000 (118.11")
100	10000 (393.7")
200	20000 (787.4")
300	30000 (1181.1")

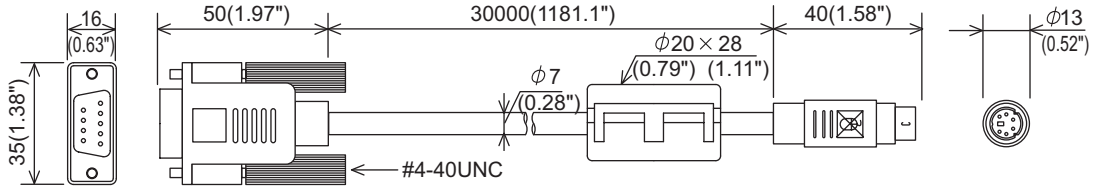
GT01-C30R2-25P



GT01-C30R2-9S



GT01-C30R2-6P



Appendix 2 Usage Condition of Utility Function

The function which can be used differs according to the GOT type.
Moreover, there are the function which can be set with drawing software and the function which cannot be set.

○ : Applicable × : N/A

Setting items		Function	GT15	GT11	Drawing Setting
Connection settings *1		Channel No. setting and communication driver assignment to communication interface	○	○	○
	Connection detail settings	Communication parameter setting	○	○	○
		Sequence program protection key word setting (When connecting FX series PLC)	○	○	×
		Sequence program protection key word deleting (When connecting FX series PLC)	○	○	×
		Sequence program protection status cancel (When connecting FX series PLC)	○	○	×
GOT Setup	Display settings	Opening screen time setting	○	○	○
		Screen save time setting	○	○	○
		Screen save backlight ON/OFF setting	○	○	○
		Message language switching (Japanese/English)	○	○	○
		Screen saving human sensor enable/disable setting	○	×	×
		Human sensor detect level setting	○	×	×
		Display of human sensor detect time	○	×	×
		Human sensor OFF delay setting	○	×	×
	Brightness/ contrast adjustment	Liquid crystal brightness setting	○	○	×
		Liquid crystal contrast setting	×	○	×

(Continued to next page)

○ : Applicable × : N/A

Setting items			Function	GT15	GT11	Drawing Setting
GOT Setup	Operation		Buzzer volume setting	○	○	○
		Security setting*2	Security level change (Security password input for each object)	○	○	×
		Utility call key	Utility call key setting	○	○	○
		Key sensitivity	Key sensitivity setting	○	○	×
		Key reaction speed	Displaying key response speed	○	○	×
		Touch panel adjustment	Correcting touch position reading error	○	×	×
	Q/QnA ladder monitor setting		Setting of data holding destination for MELSEC-Q/QnA ladder monitor function	○	×	○
	Transparent mode setting		Setting of communication target channel No. when using FA transparent function	○	×	○
Time display and setting*3			Selecting base clock	○	○	○
			Displaying the present time of the clock	○	○	×
			Setting the present time of the clock	○	○	×
			Displaying battery status	○	○	×

*1: It is necessary to perform the followings by GT Designer2.
- Installation of communication driver
- Assignment of channel No. and communication driver

*2: It is necessary to set the security level by GT Designer2.

*3: Mount a battery as necessary.

○ : Applicable × : N/A

Setting items			Function	GT15	GT11	Drawing Setting
Program/data control	OS information		Installing OS	○	○	×
			Uploading OS	○	○	×
			Displaying the properties of OS (Type, version, date)	○	○	×
			System file (OS) data check	○	○	×
	Project information		Downloading project file	○	○	×
			Uploading project file	○	○	×
			Deleting project file	○	○	×
			Copying project file (A drive → A drive)	○	○	×
			Displaying the properties of project file (Date, version, screen title)	○	○	×
			Project file data check	○	○	×
	Alarm information		Deleting alarm log file	○	×	×
			Copying alarm log file	○	×	×
			G1A → CSV conversion (Conversion of alarm file from G1A to CSV)	○	×	×
			G1A → TXT conversion (Conversion of alarm file from G1A to TEXT)	○	×	×
		Historical graph display	Historical graph display of alarm file	○	×	×
		Total graph display	Total graph display of alarm file	○	×	×
	Advanced recipe information		G1P → CSV conversion (Conversion of advanced recipe file from G1P to CSV)	○	×	×
			G1P → TXT conversion (Conversion of advanced recipe file from G1P to CSV)	○	×	×
			Deleting advanced recipe file or folder	○	×	×
			Copying advanced recipe file	○	×	×
			Moving advanced recipe file or folder	○	×	×
			Changing advanced recipe folder name	○	×	×
			Creating a new advanced recipe file or folder	○	×	×
		Advanced recipe record list	Loading record value	○	×	×
			Saving record value	○	×	×
			Matching record value	○	×	×
			Deleting device value	○	×	×

(Continued to next page)

○ : Applicable × : N/A

Setting items		Function	GT15	GT11	Drawing Setting
Program/data control	Logging information	G1L → CSV conversion (Conversion of logging file from G1L to CSV)	○	×	×
		G1L → TXT conversion (Conversion of logging file from G1L to TXT)	○	×	×
		Deleting logging file or folder	○	×	×
		Copying logging file	○	×	×
		Moving logging file	○	×	×
		Changing logging file name	○	×	×
		Creating a new logging folder or file	○	×	×
	Hard copy information	Deleting hard copy file	○	×	×
		Copying hard copy file	○	×	×
	Memory card format	Formatting memory card	○	○	×
	Memory information	Displaying the memory free space of GOT	○	○	×
	Special data information	Displaying the name, data size and creating date of file or folder	○	×	×
		Deleting special data file or folder	○	×	×
		Special data file check	○	×	×
		Downloading special data of A drive (Standard CF card) to C drive (Built-in flash memory)	○	×	×

○ : Applicable × : N/A

Setting items			Function	GT15	GT11	Drawing Setting
Debug/Self check	Debug	System monitor	Changing the present value of the device monitor of PLC, the buffer memory monitor of the test function and special memory, and the buffer memory	○	○	×
		Ladder monitor	Displaying ladder monitor and executing hard copy	○	×	×
		A list editor	Changing PLC program of ACPU and parameters	○	○	×
		FX list editor	List editing PLC program of FX PLC	○	○	×
		Intelligent module monitor	Executing the monitor and data change for the buffer memory of intelligent function module on the dedicated screen Or monitoring available to check the signal status of I/O module	○	×	×
		Network monitor	Monitoring the network status of MELSECNET/H, MELSECNET/10, MELSECNET(II) and MELSECNET/B	○	×	×
		Q motion monitor	Servo monitor and parameter settings of the motion controller CPU (Q series)	○	×	×
		Servo amplifier monitor	Executing each monitor function, parameter change, test operation and others of the servo amplifier	○	×	×
		CNC monitor	Executing the position display monitor equivalent to the display dedicated to MELDAS, the alarm diagnosis monitor, the tool offset/parameter, the program monitor, etc.	○	×	×
	Self check	Memory check	A drive memory check (Standard CF card)	○	○	×
			C drive memory check (Built-in flash memory)	○	○	×
			D drive memory check (Built-in SRAM)	×	○	×
		Drawing check	Missing bits, color, draw, display and overlap display check of liquid crystal	○	○	×
		Font check	Installed fonts check	○	○	×
		Touch panel check	Touch panel operation check	○	○	×
		I/O check	Connected target confirmation	○	○	×
			Self-loopback check *4	○	○	×
Screen cleaning			Displaying the screen to clean the display section	○	○	×

○ : Applicable × : N/A

Setting items		Function	GT15	GT11	Drawing Setting
Maintenance report	Maintenance report *5	Backlight maintenance notification time setting	○	×	×
		Display section maintenance notification time setting	○	×	×
		Touch key maintenance notification count setting	○	×	×
		Built-in flash memory maintenance notification count setting	○	×	×
Integrated value reset	Integrated value reset *5	Function to reset the values of backlight maintenance notification time counted for maintenance time report, display section maintenance notification time, touch key maintenance notification count and built-in flash memory maintenance notification count	○	×	×

*4: It is necessary to mount a RS-232 connector for test. ( )Section 14.7 I/O Check

*5: It is necessary to mount the option function board and battery.

Appendix 3 Transportation Precautions

When transporting lithium batteries, make sure to treat them based on the transport regulations.

Appendix 3.1 Relevant models

The battery for the GOT1000 Series is classified as shown in the table below.

Product name	Model	Description	Handled as
Battery for GOT1000 Series	GT11-50BAT	Lithium coin battery	Non-dangerous goods

Appendix 3.2 Transport guidelines

Products are packed properly in compliance with the transportation regulations prior to shipment. When repacking any of the unpacked products to transport it to another location, make sure to observe the IATA Dangerous Goods Regulations, IMDG Code and other local transportation regulations.
For details, please consult your transportation company.

Appendix 4 List of Functions Added by GT Designer2 Version Upgrade (For GOT1000 Series)

The following describes the functions added by version upgrade of the GT Designer2 Version2.09K.
For using the following functions, use the GT Designer2 or OS of the stated version or later.

1 Added GOT main unit

Target Models	Version of GT Designer2	Version of OS
GT1595-XTBA	2.17T	Standard monitor OS [02.02.**]
GT1585-STBD	2.17T	Standard monitor OS [02.02.**]
GT1575-STBD	2.17T	Standard monitor OS [02.02.**]
GT1575-VTBD	2.17T	Standard monitor OS [02.02.**]
GT1575-VNBA, GT1575-VNBD, GT1572-VNBA, GT1572-VNBD	2.17T	Standard monitor OS [02.02.**]
GT1565-VTBD	2.17T	Standard monitor OS [02.02.**]
GT1562-VNBA, GT1562-VNBD	2.17T	Standard monitor OS [02.02.**]
GT1155-HS-QSBD to GT1150-HS-QLBD	2.17T	Standard monitor OS [02.02.**]

2 Added connection types

Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
Bus connection	Supporting connection to Q172HCPU, Q173HCPU	2.09K	Communication driver Bus(Q) [01.02.**]	○	×
Direct connection to CPU	Supporting connection to Q172HCPU, Q173HCPU	2.09K	Communication driver A/QnA/QCPU,QJ71C24 [01.02.**]	○	○
	Supporting connection to FX3U series	2.17T	Communication driver MELSEC-FX[02.02.**]	○	○
Computer link connection	Supporting connection to Q172HCPU, Q173HCPU	2.09K	Communication driver A/QnA/QCPU,QJ71C24 [01.02.**]	○	○
MELSECNET/10 connection (PLC to PLC network)	Supporting connection to MELSECNET/10 PLC to PLC connection)	2.09K	Communication driver MELSECNET/10 [01.02.**]	○	×
	Supporting connection to Q172HCPU, Q173HCPU				
CC-Link connection (Intelligent device station)	Supporting connection to CC-Link (Intelligence device station)	2.09K	Communication driver CC-LINK(ID) [01.02.**]	○	×
	Supporting connection to Q172HCPU, Q173HCPU				

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Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
CC-Link connection (Via G4)	Supporting connection to CC-Link (Via G4)	2.09K	Communication driver CC-LINK(G4) [01.02.**]	○	○
	Supporting connection to Q172HCPU, Q173HCPU				
Ethernet connection	Supporting connection to the Ethernet	2.09K	Communication driver QJ71E71/AJ71(Q)E71 [01.02.**]	○	×
	Supporting connection to Q172HCPU, Q173HCPU				
OMRON PLC connection	Extended device range monitored (The setting of TIM or CNT up to 4095, etc.)	2.09K	Communication driver OMRON SYSMAC [01.02.**]	○	○
KEYENCE PLC connection	Supporting connection to KEYENCE PLC	2.17T	Communication driver KEYENCE KV700/1000 [02.02.**]	○	○
SHARP PLC connection	Supporting connection to SHARP PLC	2.09K	Communication driver SHARP JW [01.02.**]	○	○
TOSHIBA PLC connection	Supporting connection to TOSHIBA PLC	2.09K	Communication driver TOSHIBA PROSEC T/V [01.02.**]	○	○
HITACHI PLC connection	Supporting connection to HITACHI PLC	2.09K	Communication driver HITACHI HIDIC H [01.02.**] HITACHI HIDIC H (Protocol 2) [01.02.**]	○	○
MATSUSHITA PLC connection	Supporting connection to MATSUSHITA PLC	2.09K	Communication driver MATSUSHITA MEWNET-FP [01.02.**]	○	○
	Supporting connection to FP-Σ	2.17T	Communication driver MATSUSHITA MEWNET-FP [02.02.**]	○	○
Allen-Bradley PLC connection	Can use L device by MicroLogix 1000/1200/ 1500 series	2.17T	Communication driver AB MicroLogix [02.02.**]	○	○
SIEMENS PLC connection	Supporting connection to SIEMENS S7-200 series	2.17T	Communication driver SIEMENS S7-200 [02.02.**]	○	○
OMRON temperature controller connection	Supporting connection to OMRON temperature controller	2.17T	Communication driver OMRON THERMAC / INPANEL NEO [02.02.**]	○	○
YAMATAKE temperature controller connection	Supporting connection to YAMATAKE temperature controller	2.17T	Communication driver YAMATAKE SDC/DMC [02.02.**]	○	○
RKC temperature controller connection	Supporting connection to RKC temperature controller	2.17T	Communication driver RKC SR Mini HG(MODBUS) [02.02.**]	○	○
Inverter connection	Supporting connection to inverter	2.17T	Communication driver FREQROL 500/700 [02.02.**]	○	○
CNC connection	Supporting connection to CNC	2.17T	Communication driver A/QnA/QCPU'QJ71C24'MELDAS C6* [02.02.**] A/QnAQJ71E71/AJ71(Q)E71 [02.02.**] MELSECNET/10 [02.02.**] CC-Link(ID) [02.02.**]	○	○

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Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
Servo amplifier connection	Supporting connection to servo amplifier	2.09K	Communication driver MELSERVO-J2S/M [01.02.**]	○	○
	Supporting connection to MELSERVO-J3 series	2.17T	Communication driver MELSERVO-J3,J2S/M [02.02.**]	○	○
Bar code reader connection	Supporting connection to barcode reader	2.09K	Extended function OS Barcode [01.02.**]	○	○
FA transparent	Supporting the FA transparent function via USB	2.09K	GT15 Standard monitor OS [01.02.**] GT11 Standard monitor OS [01.02.**] Boot OS [01.02.**.C]	○	○
Multiple-GT11 connection	Connection with multiple GT11s	2.09K	Standard monitor OS [01.02.**]	×	○

3 Added GT Designer2 functions

Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
Ethernet download	Downloading the project data via Ethernet	2.09K	Standard monitor OS [01.02.**]	○	×
Basic comment, comment group	Copying comments in column unit on Basic Comment or Comment Group, etc.	2.09K	—	○	○
Library workspace	Improved library structure and added import function	2.09K	—	○	○
	Improved user library structure, expanded the user library registration capacity, copying the figure data to the user library, etc.	2.17T	—	○	○
	Addition of fixed frame figure	2.17T	—	○	○
Project data matching	Matching project data stored in GOT and project data opened on GT Designer2	2.09K	Standard monitor OS [01.02.**]	○	○
Copy ON→OFF Copy OFF→ON	Enables copying of only characters in lamp display, touch switch and comment display.	2.17T	—	○	○
Import, Export	Enables editing of the settings for advanced alarm observation (advanced user alarm), alarm history, advanced recipe function and recipe function in the CSV file format and other format.	2.17T	—	○	○
Print	Enables printing of header and footer	2.17T	—	○	○
Data View	Enables changing of the settings for the respective objects in grouped objects	2.17T	—	○	○
Batch Edit	Enables global replacement of channel No.	2.17T	—	○	×
Screen Preview	Enables checking for security level switching and language switching in image after switching	2.17T	—	○	○
Wizard	Wizard for setting the GOT type, controller type and communication settings when creating a new project	2.17T	—	○	○

4 Added common settings/object functions

Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
Figure	JPEG file reading enabled	2.09K	Standard monitor OS [01.02.**]	○	×
Text	Windows® fonts applicable	2.09K	Standard monitor OS [01.02.**]	○	○
KANJI Region	Supporting Chinese (Traditional)	2.17T	Standard monitor OS [02.02.**] Option OS Standard font (Chinese: Traditional) [02.02.**]	○	×
GOT Type	Supporting vertical installation type display	2.17T	Standard monitor OS [02.02.**]	×	○
Station No. Switching Function	Designation of the channel No. for which station No. is switched is possible.	2.17T	Standard monitor OS [02.02.**]	○	×
Language Switching Device	Language switching device can be used.	2.00A	Standard monitor OS [01.00.**]	○	×
		2.17T	Standard monitor OS [02.02.**]	○	○
Password Setting	Password can be set for the connection of motion controller and servo amplifier.	2.17T	Standard monitor OS [02.02.**]	○	○
GOT Setup	In clock management, both adjust and broadcast can be set.	2.17T	Standard monitor OS [02.02.**]	○	○
	Data save device of MELSEC-Q / QnA ladder monitor data can be set at GT Designer2.	2.17T	—	○	×
	Time setting for call key ON until the start up of utility can be set (for 1-point pressing).	2.17T	Standard monitor OS [02.02.**]	○	×
Clock Setting	Designation of the channel No. used for adjusting and broadcasting is possible.	2.17T	Standard monitor OS [02.02.**]	○	×
Startup Logo	Function for setting any screen for the GOT startup screen	2.09K	Standard monitor OS [01.02.**] Boot OS [01.02.**.C]	○	○
Handy GOT Setting	Setting of the grip switch LED of handy GOT	2.17T	Standard monitor OS [02.02.**]	×	○
Comment	Comment group can be used.	2.00A	Standard monitor OS [02.02.**]	○	×
		2.17T	Standard monitor OS [02.02.**]	○	○
Key Window	User defined key window display can be switched in synchronization with the language switching device.	2.17T	Standard monitor OS [02.02.**]	○	○
	In the user defined key window, input range (maximum value) and input range (minimum value) are displayed.	2.17T	Standard monitor OS [02.02.**]	○	○
Lamp	Windows® fonts applicable	2.09K	Standard monitor OS [01.02.**]	○	○
Touch switch	Windows® fonts applicable	2.09K	Standard monitor OS [01.02.**]	○	○
ASCII Display / ASCII Input	Function to store NULL (0x00) at the end of input characters	2.17T	Standard monitor OS [02.02.**]	○	○
	Function to convert characters input in Kana into Kanji	2.17T	Standard monitor OS [02.02.**] Option OS KANA KANJI (JP) [02.02.**]	○	×
Advanced Alarm	Function for detecting alarm even at the fall of bit device with Advanced User Alarm	2.09K	Standard monitor OS [01.02.**]	○	×

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Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
Parts Display	Function for using BMP/JPEG data in memory card as parts	2.09K	Standard monitor OS [01.02.**]	○	×
Parts Movement		2.09K	Standard monitor OS [01.02.**]	○	×
Panelmeter	Windows® fonts applicable	2.09K	Standard monitor OS [01.02.**]	○	○
Historical Trend Graph	Function to display the data collected by the logging function in trend graph format	2.17T	Standard monitor OS [02.01.**]	○	×
Logging Function	Function to collect and accumulate device values	2.17T	Standard monitor OS [02.02.**] Option OS Logging [02.02.**]	○	×
Advanced Recipe	The extended function of the existing recipe function	2.09K	Standard monitor OS [01.02.**] Option OS Advanced recipe [01.02.**]	○	×
Barcode	Function for loading the data read with bar cord reader to PLC CPU	2.09K	Standard monitor OS [01.00.**]	○	○
Test function	Function for changing device value with displaying test window.	2.09K	Standard monitor OS [02.02.**]	○	○
Project Script	Function to execute scripts in units of project file	2.00A	Standard monitor OS [01.00.**]	○	×
		2.17T	Standard monitor OS [02.02.**]	○	○
Screen Script	Function to execute scripts in units of screen	2.00A	Standard monitor OS [01.00.**]	○	×
		2.17T	Standard monitor OS [02.02.**]	○	○
Object Script	Function to execute scripts in units of object	2.17T	Option OS Object Script [02.02.**]	○	×
Key Code	Key codes for increment key and decrement key are added.	2.17T	Standard monitor OS [02.02.**]	○	○
	Key code for historical trend graph is added.	2.17T	Standard monitor OS [02.02.**]	○	×
	Key code used for Kana Kanji conversion is added.	2.17T	Standard monitor OS [02.02.**]	○	×

5 Other functions added

Item	Description	Version of GT Designer2	Version of OS	GT 15	GT 11
Unlimited installation of extended function OSs and option OSs	Extended function OS and option OS can be installed unlimitedly. (Conventionally, the limit was 10.)	2.17T	BootOS [02.02.**.E]	○	×
System monitoring function	Function for monitoring/testing device of PLC CPU or buffer memory of intelligent function module	2.09K	Extended function OS System monitor [01.02.**]	○	○
Network monitor function	Function to monitor the network status of MELSECNET/H, MELSECNET/10, etc.	2.17T	Option OS Network monitor [02.02.**]	○	×
Ladder monitoring function	Function for displaying sequence program loaded to CPU on GOT	2.09K	Option OS Ladder monitor for MELSEC-A [01.02.**] Ladder monitor for MELSEC-Q/QnA [01.02.**] Ladder monitor for MELSEC-FX [01.02.**]	○	×
Intelligent module monitor function	Function to monitor and change the data of intelligent function module buffer memory using a dedicated screen	2.17T	Option OS Intelligent module monitor [02.02.**]	○	×
List editor for MELSEC-A	Function for displaying/editing sequence program saved from ACPU with list mode	2.09K	Option OS List editor for MELSEC-A [01.02.**]	○	○
List editor for MELSEC-FX	Function to display / edit the sequence program read out from the FXCPU in the list mode	2.17T	Option OS List editor for MELSEC-FX [02.02.**]	○	○
Servo amplifier monitor function	Function to monitor the servo amplifier and also to change parameters, execute test run, etc.	2.17T	Option OS Servo amplifier monitor [02.02.**]	○	×
Q motion monitor function	Function to execute servo monitor and parameter setting for motion controller CPU (Q series)	2.17T	Option OS Q motion monitor [02.02.**]	○	×
CNC monitor function	Function to monitor position display, alarm diagnosis and program and to check tool offset data at the same level as with the dedicated MELDAS display unit.	2.17T	Option OS CNC monitor [02.02.**]	○	×
Multi-channel function	Function to monitor multiple controllers with a single unit of GOT	2.17T	Standard monitor OS [02.02.**] Communication driver Use the communication driver, [02.02.**] or later for each connection.	○	×
Gateway function	Function for monitoring each controller from one GOT/PC or sending a mail from GOT	2.09K	Option OS Gateway function (Mail) [01.02.**] Gateway function (Server, Client) [01.02.**]	○	×
	Supporting the FTP server function	2.17T	Option OS Gateway functionFTP [02.02.**]	○	×

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WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company. However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place. Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.

(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.

1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
2. Failure caused by unapproved modifications, etc., to the product by the user.
3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.

(2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user or third person by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not , compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

6. Product application

(1) In using the Mitsubishi graphic operation terminal, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the graphic operation terminal device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.

(2) The Mitsubishi graphic operation terminal has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the graphic operation terminal applications. In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation, equipment for recreation and amusement, and safety devices, shall also be excluded from the graphic operation terminal range of applications. However, in certain cases, some applications may be possible, providing the user consults their local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at the users discretion.

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GRAPHIC OPERATION TERMINAL

GOT1000

GT11 User's Manual

MODEL	GT11-U-E
MODEL CODE	09R815
JY997D17501B	

MITSUBISHI ELECTRIC CORPORATION

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